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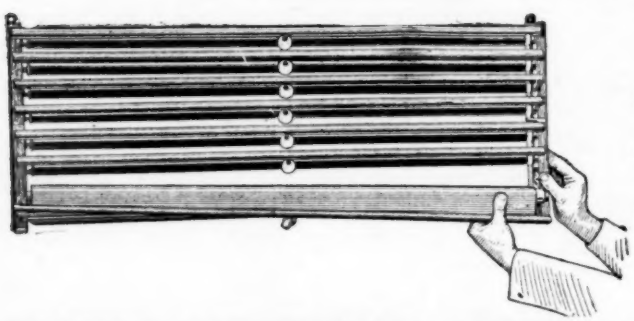

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LECTURE III.*

CANCER OF THE UTERUS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

THE rarity of the combination of cancer of the uterus with pregnancy is shown by the fact that few gynæcologists have published even such a small list (10 cases) as that which I have been able to collect among my own cases. Even then the cases have not been all personally treated by the authors, but are often the collected cases of clinics published in inaugural dissertations and theses, the writers of which are inexperienced and are wanting in the intimate knowledge which only personal attendance can give. In the clinic of Professor Wertheim, who has had such an extensive experience of this disease, amongst 250 cases of cancer of the cervix only 6 were complicated with pregnancy, and some of these were not treated by the professor. The largest series attended at one clinic I have been able to find is that published by Glockner,[1] consisting of 17 cases from the Gynæcological Clinic of Zweifel at Leipzig, followed by a series of 10 cases from the same clinic by Aulhorn.[2] In 1904 Sarwey[3] had been able to collect from the literature only 240 cases of this complication which had been subjected to operation, and he states that v. Winckel had met with 10 cases in 20,000, Stratz 7 in 17,832, Sutugin 2 in 9000, Glockner 17 in 26,000, Orthmann 6 in 4028, Doderlein 7 in 5001, the Rostock Clinic 4 in 2287 labours, and gives the frequency as 1 in 1600 labours.

DISCUSSION OF CASES.

In Tables E and F are given brief particulars of the 10 cases of cancer of the cervix complicating pregnancy, labour, and the puerperium, which I have had under my care at University College Hospital. They comprise all the cases I have seen; I have not met with a case in private practice.

Cases 5, 6, and 7 have been published with full details in the Obstet. Soc. Trans., Vol. XLVI., for 1904. A few notes here will bring the after-histories up to a later date. In all these cases the growth was a squamous-cell carcinoma.

CASE 5 (see Table F, No. 1).—E. W., aged 33 (children 4, abortion 1), was delivered on March 25th, 1893, by forceps through a cancerous cervix, of a full-term living child, which died of whooping-cough when 11 months old. The labour was slow. The patient had had a discharge of blood for eight months. There was no post-partum hæmorrhage. On April 8th, 1893, high amputation was performed with the Pacquelin cautery. On June 6th, 1894, she became pregnant in the body, which had been left behind. On March 6th, 1895, I delivered her by Cæsarean section, terminated as a Porro's operation, with extra-peritoneal treatment of the stump. This child grew up and served as a soldier in the Great War. In 1918, 25 years after the high amputation, the mother was examined by me and found to be in excellent health. (Figs. 1 and 2.)

CASE 6 (see Table F, No. 2).—A. C., aged 35 (children 8, abortion 0), was admitted to U.C.H. on Jan. 3rd, 1896, when seven months pregnant. She had had hæmorrhage on coitus for seven months, and a thin, watery offensive blood-stained discharge for six months. There was a large cancerous growth on the posterior lip and left side of the cervix. Labour was induced by de Ribes's bag: the child (3 lb. 7 oz.) lived only 38 minutes. On Jan. 28th, 1896, I removed the cervix by the high amputation with the Pacquelin cautery. I have seen this patient many times since the operation. I examined her in 1918, 22 years after the operation, and found her free from recurrence and in excellent health. (Figs. 3 and 4.)

CASE 7 (see Table F, No. 3).—M. S., aged 38 (children 9, abortion 0), was delivered in the maternity of U.C.H. on Jan. 25th, 1896, naturally, of a living child. She had had no bleeding during the pregnancy, but blood and shreds were passed every day afterwards. On June 5th, 4 months and 11 days after delivery, she was examined and found to have cancer of the cervix. High amputation was performed on June 30th, 1896. In 1915, 19 years after the operation, I examined the patient and found her free from recurrence and in excellent health. The child lived at least to the age of 8 years. I have no further note about her, and her mother's present address is unknown. (Figs. 5 and 6.)

Age of the Patients.

Of the 10 patients, 2 were between the ages of 20 and 30; 7 were between the ages of 30 and 40; and 1 was between the ages of 40 and 50. The youngest patient was 26, the oldest 40.

In dividing patients according to decennia "20–30," &c., a patient aged 30 should appear in the 30–40 list; some writers erroneously put the patient in the 20–30 list, and thus the statistics may be misleading. Sarwey's patients were divided into 20–30, 31–40, 41–50, which is not a decennial division at all. Of his collected series of patients, 17·8 per cent. were between 20 and 30; 64·4 per cent. were between 31 and 40; and 17·8 per cent. were between 41 and 50. Sarwey shows from the ages of 3442 cases not complicated with pregnancy that only 3 per cent. were between 20 and 30; 22·4 per cent. were between 31 and 40; 34 per cent. were between 41 and 50.

The figures show that in the child-bearing period of life cancer uncomplicated with pregnancy is at its maximum in patients over 40, but when complicated with pregnancy under 40; and that below 30 the frequency of cancer is six times as great in the pregnant as in the non-pregnant. The youngest of my patients was 26 years of age. I have never met with cancer of the cervix at an earlier age than this. Of Sarwey's collected cases the youngest (Schwarzwaller's) was only 22, the oldest was 47.

Number of Children and Abortions.

Cancer of the cervix is very rare in women who have not been impregnated. Olshausen and Döderlein have published cases of cancer complicating the first pregnancy. Cancer even in the second pregnancy is rare, having been found only six times in Sarwey's 180 cases. To these may be added my Case 3. My 10 cases had had in all 70 children and 11 miscarriages—that is, an average of 7 children and over 8 pregnancies. Six out of the 10 patients had had 8 children, and half of them had had 9 or more children, the greatest number of pregnancies being 15 (Case 9). The influence of multiparity is thus shown, as in all the statistics dealing with this combination.

Why cancer of the cervix should be almost confined to parous women and so extremely rare in virgins is a question which has been much discussed. Lacerations during labour and abortion have been supposed by many to be the causes of the development of cancer in this situation. Observations on this point are few in number;

* Lectures I. and II. were published in THE LANCET of Feb. 21st and 28th, pp. 411 and 475. In the third lecture the clinical history of some of the cases is omitted.

[1] Beiträge für Geb. und Gyn., Leipzig, 1902.
[2] Archiv für Gyn., vol. xcii., p. 242.
[3] Veit's Handbuch der Gyn., vol. ii., p. 850, 1908.

TABLE E.—*Author's Cases of Early* Pregnancy complicated by Cancer of the Cervix at University College Hospital, from July, 1887, to October, 1919.*

No.	Age.	Children.	Abortion.	Month of pregnancy.	Result to mother.†		Result to child.†		Mode of delivery.	Operation performed.
					Immediate.	Remote.	Immediate.	Remote.		
1	36	9	2	5th	D.[1]	—	D.	—	Natural.	No; too far advanced for curative operation; natural abortion, Sept. 8th, 1891. Admitted with fever, 103°; septic; rigor.
2	40	9	1	6th	D.[2]	—	L.	D. (in 2 days).	,,	No; too far advanced for curative operation; natural abortion, Jan. 23rd, 1895. Admitted febrile, 100°. P. 116.
3	29	1	0	6th	D.[3]	—	D.	—	Undelivered.	No; too far advanced for curative operation.
4	26	2	0	4th	L.	D.[4]	D.	—	Pregnant uterus removed.	Vaginal hysterectomy with the galvano-cautery. March 15th, 1906.

* Before the eighth calendar month. † L = lived; D = died.
[1] Sepsis, Sept. 26th, 1891. [2] Sepsis, Feb. 1st, 1895. [3] Nov. 25th, 1906, undelivered. [4] Of recurrence, Sept. 24th, 1907.

TABLE F.—*Author's Cases of Advanced‡ Pregnancy complicated by Cancer of the Cervix at University College Hospital, from July, 1887, to October, 1919.*

1	33	4	1	Term	L.	Well 25 yrs.[5]	L.	D. (11 mths. later).[6]	Per vaginam, forceps.	High amputation of cervix (April 8th, 1893), a fortnight after delivery. Two years later Porro-Cæsarean section with living child, who served as a soldier in the war 1914–1918.
2	35	8	0	8th	L.	Well 22 yrs.[5]	L.	D. (in 38 min.).	Per vaginam, induction of labour by de Ribes's bag.	High amputation of cervix (Jan. 28th, 1896), 18 days after delivery.
3	38	9	0	Term	L.	Well 19 yrs.[5]	L.	Well (8 yrs. later)	Per vaginam, unassisted, easy.	High amputation of cervix (June 30th, 1896), 5 months after delivery.
4	30	6	3	8th	L.	D. (7 mths. later).	L.	L. (6 mths. later).	Per vaginam, forceps.	No; too far advanced for curative operation.
5	39	12	3	8th	L.	D. (12 mths. later).	L.	L. (6 mths. later).	Per vaginam, forceps; rupture of uterus.	No; too far advanced for curative operation. Rupture packed with iodoform gauze.
6	34	10	1	8th	L.	D. (7 mths. later).	L.	D. (15 days later).	Per abdomen, by Porro-Cæsarean section, with use of serre-nœud.	No; too far advanced for curative operation.

‡ In the eighth or ninth calendar month. [5] After high amputation of cervix (see text). [6] Of whooping-cough.

but Sir John Williams has published a striking case where the laceration was the only part of the os not affected. It seems probable that lacerations, by exposing the cervical mucous membrane to external irritation, may tend to favour the development of cancer, but its influence is probably small; for cancer often develops in cases in which there is no sign of previous laceration, and in situations where lacerations do not occur: and, moreover, cancer of similar structure occurs in the body of the uterus in which the question of laceration does not arise.

Dr. King, of Washington, propounded a theory that the development of cancer was set up by the influence of spermatozoa in giving rise to multiplication of the epithelial cells, under certain conditions, in the same way as they cause development of the cells of the ovum. Erosions have been thought by some to be a pre-cancerous condition, and very radical methods of treatment have been suggested in consequence. As erosions are very common in virgins, in whom cancer of the cervix is met with extreme rarity, it is quite certain that erosions rarely develop into cancer. Nevertheless, in erosions are sometimes found both metaplasia and hyperplasia, and even slight downgrowth of the epithelium, which renders the differential diagnosis from early carcinoma occasionally difficult. And to the naked eye a case of this kind sometimes shows papillary, club-like, or finger-like processes, or even extensive papillomatous growths which may closely resemble cancer. These growths are, I think, sometimes the result of excessive sexual irritation and of venereal infection. And I am inclined to think that when the question of the causation of cancer of the cervix is solved it will be found that the reason why this disease is almost limited to women who have had coitus is that local venereal infection is almost limited to them. I do not know of a series of scientific investigations into the relations of syphilis, soft sores, and gonorrhœa to cancer of the cervix, but I believe it will be found to be a close one. I have twice seen cancer of the cervix develop in patients who had previously had a chancre of the cervix.

Influence of the Cancer on the Pregnancy.

Cancer of the cervix by obstructing the canal, by the hæmorrhages and discharges to which it gives rise, and the infection and inflammation which often accompany it, tends to prevent the occurrence of pregnancy, and when it occurs to produce abortion or premature labour. Of my 10 cases 2 aborted spontaneously at the fifth and sixth month. Case 3 died undelivered, from coma, probably due to syphilitic brain disease, possibly to renal disease from pressure on the ureters. Case 4 was operated on at the fourth month. Of the remaining 6 cases 4 were delivered prematurely at the eighth calendar month; one of these was induced; the other two were at term. Both the cases which aborted were septic on admission to the hospital, and it is probable that the infection brought on the abortion. Apart from this there does not appear to be a great tendency for abortion to occur in the early months. Of the 6 cases of pregnancy in the eighth and ninth calendar months, in no less than 3 labour came on prematurely, which seems to show a great tendency to premature delivery.

The growth may in some cases be so extensive as to prevent the delivery of the child, and "missed labour" may occur. In Case 9 the uterus ruptured during labour.

It is to hæmorrhage, sepsis, and rupture of the uterus that the high mortality of this complication is due.

Influence of the Pregnancy on the Cancer.

The influence of the pregnancy on the cancer has been varied in different cases. Zweifel's case, in which the growth extended by two fingers' breadth in the course of a fortnight, has probably attracted unusual attention from the method employed to estimate the rate of growth, viz., passing a thread through the edge of the growth—a procedure not altogether free from risk! In Case 9 the growth apparently did not alter in size at all during nearly two months' daily observation. After the labour it diminished at first, but began to increase about two months later. The three cases (8, 9, 10) which were inoperable survived from 7 to 12 months, which does not show any marked rapidity of growth after delivery, seeing that in all the cases the growth had reached an advanced stage at the time of delivery, which was difficult (forceps, Cæsarean section, forceps for rupture of uterus).

Symptoms.

Of the three chief symptoms of cancer of the cervix, hæmorrhage, discharge, and pain, the most important

is the hæmorrhage. When the cancer complicates pregnancy the hæmorrhage may lead the patient to think she is not pregnant or has miscarried.

Hæmorrhage as the result of coitus is a symptom of the greatest importance. It occurred as the first symptom in Case 6, and was followed by a characteristic thin, watery, offensive, blood-stained discharge, which, after it had existed for six months, led the patient to seek advice. In some cases, however, the growth does not bleed as a result of pressure upon it. An instance of this was Case 9, and Kreps[4] has published a similar one. In some cases the hæmorrhage occurs at approximately monthly periods, and thus leads the patient into error with regard to the presence or duration of pregnancy.

The second cardinal symptom, discharge, is often the first in point of time, but is unnoticed by the patient, owing to the frequency with which it occurs from other causes. When, however, it is watery and discoloured, or blood-stained, it should at once arouse suspicion; an offensive discharge is due to necrosis, and often occurs only in the later stages of the growth.

The third cardinal symptom, pain, ordinarily does not occur in cancer of the unimpregnated uterus until the growth has extended beyond the organ; occasionally inflammation resulting from bacterial infection will cause it to appear while the growth is limited to the cervix. In cases complicated by pregnancy, pain may occur at an earlier date, being due to contractions of the uterus or to a threatened or actual abortion, as well as to septicæmic infection, which is very prone to occur in these cases (1 and 2). The secondary symptoms—wasting, malaise, cachexia, pressure symptoms—do not differ from those met with apart from pregnancy.

Diagnosis.

Cancer of the uterus complicating pregnancy always affects the cervix: there is, so far as I know, no case recorded of cancer of the body complicating pregnancy which will stand investigation. The cases formerly published were either cases of chorion-epithelioma or sarcoma. In making the diagnosis, three methods are employed (*a*) digital pelvic examination, (*b*) inspection, and (*c*) microscopical examination. In the early months it may be difficult to make out the condition of the pregnant uterus on account of the presence of the growth and the bleeding to which bimanual examination may give rise. On the other hand, the uterus is not rarely distended by pus (pyometra) in cases of cancer of the cervix, and it may then closely simulate a pregnant uterus, especially if menstruation has stopped. This will rarely occur apart from pregnancy until the age of the menopause (47), and pregnancy at this age is so exceedingly rare that only one case was recorded in Sarwey's collection.

On vaginal examination either a growth or an ulcer will be felt, both differing markedly from the normal cervix by being comparatively hard and brittle, breaking down under the finger, and bleeding on pressure with the finger or the point of a sound. In later stages the uterus may be fixed by inflammation or growth in the cellular tissue; this is most easily made out by rectal examination.

On inspection through a speculum—a large Fergusson speculum, with the patient in the lithotomy position, is best for this purpose—an irregular growth with nodular or club-like processes, with or without ulceration, may be found. The colour of the growth is livid red, often sloughy on the surface, and may contrast with the purple colour of the vaginal cervix. The surface of the growth should be dried with absorbent cotton-wool, the overhanging edge noted, and the bleeding and breaking down on pressure. If ulceration be present the only conditions likely to be mistaken for it—viz., tubercle and syphilis—are rare.

In some cases only a hard, smooth enlargement of the cervix is met with; there is neither a projecting irregular breaking-down growth nor ulceration, the growth being in the wall of the uterus. In these cases the finger is easily passed into the cervical canal and recognises the bleeding growth. A piece of this should be removed for microscopical examination in all cases. This is rendered especially necessary as the syphilitic and tuberculous affections cannot be distinguished by clinical methods, but are easily recognised under the microscope.

In ordinary cases the diagnosis of the growth is quite easy; the marked contrast of the brittle, bleeding growth with the soft tissues of the cervix of pregnancy leaves no doubt. There are, however, certain diseases of the cervix which closely resemble cancer and certain cases of cancer which lack the usual signs.

Conditions Resembling Early Cancer of the Cervix.

Hypertrophied papillary or nodular erosions, hypertrophied and inflamed glandular erosions, and papillomata (simple and diffuse) may closely simulate cancer.

By hypertrophied papillary or nodular erosion I mean a growth with club-like processes or lobules made up of thick connective tissue centres, often containing dilated glands, covered with a single layer of columnar or cubical epithelium. I have not met with this form during pregnancy, but the diagnosis would be difficult without microscopical examination. This form, however, is not friable.

By hypertrophied and inflamed glandular erosion I mean a granular condition similar to the ordinary glandular erosion, but much larger and more vascular; it sometimes measures as much as 1½ in. across, and can be broken into with the point of a sound and bleeds readily on examination. It dose not break down to the extent that cancer does, and the growth does not project from the surface, but in some cases it is necessary to excise a piece in order to exclude cancer. I have not met with this condition in pregnancy, but in the unimpregnated uterus have several times mistaken it for cancer until the microscope showed its nature.

Papillary growths are met with in several forms. The pedunculated papillomata of gonorrhœa are occasionally found on the cervix, but rarely, I think, without being present on the vulva or vagina. This scattered distribution is an aid in diagnosis. Broad flat papillomata with a finely granular surface may be met with both in gonorrhœa and soft sores, and, I believe, as a result of masturbation. They bleed and break down under the finger, are generally softer and more friable than cancerous growths, and can often be pinched off the surface of the cervix with a forceps, leaving a raw red surface, fairly smooth and bleeding freely. Under the microscope a central vascular stem supported by connective tissue is seen surrounded by a mass of large epithelial cells, often œdematous or vacuolated.

Also there occur occasionally more solid isolated polypoid or sessile nodules in the cervical canal and at the external os which consist of stroma of the cervix covered by many layers of squamous epithelial cells (metaplasia of cervical columnar epithelium). In the substance of these growths gland spaces may be cut across of which the epithelium has also undergone metaplasia, so that the spaces are filled with squamous epithelium. If these growths be cut without the subjacent and adjacent tissue, the appearance is not distinguishable from squamous-cell carcinoma, although a deeper section shows no such invasion of the deeper tissue of the organ as occurs in true carcinoma. In excising a portion of the cervix for microscopical examination a wedge-shaped piece should be removed, including the edge of the suspected growth, and after the wedge has been excised care should be taken that the microscopic sections are cut vertically to the free surface and not parallel to one side of the wedge.

Lastly, I would like to direct attention to the unusual features of Case 9 which led to an erroneous diagnosis. The peculiar features were (1) the smooth surface of the growth pitted by several holes from which a pus-like fluid escaped in considerable quantity; (2) the growth did not bleed at all, although it was dressed almost daily for nearly two months; (3) the growth did not break down under moderate pressure; (4) it did not,

[4] Ueber Komplikation der Gravidität mit Uteruscarcinom, Inaug. Dis., Berlin, 1905, p. 35.

apparently, increase at all during two months' observation, and in the puerperium at first diminished in size. I do not remember to have seen another case of cancer of the cervix in which these "pus" holes were present, although I have seen several in cancer of the vulva. In this case it is to be regretted that a piece was not excised; this would at once have shown that the growth was a columnar-cell carcinoma and that the "pus" was the liquefied central epithelial cores.

Importance of Clinical Examination.

Although the microscope is of the highest value and is indispensable for the diagnosis of certain cases, clinical examination is also of great importance. For want of this I have known a distinguished pathologist decide, as the result of the examination of a microscopical section, that only normal cervical glands were present when clinical examination showed a deeply-invading cancer. In this case the rare form of the cancer—"carcinoma adenomatodes"—in which the glands are lined with a single layer of columnar epithelium would have led to a serious error if reliance had been placed on the microscopic examination alone and the clinical signs had been neglected.

A SURVEY OF OTHER PUBLISHED RECORDS.

Tables of cases of cancer of the cervix in "Advanced Pregnancy"[5] treated by vaginal or combined abdominal and vaginal operation from the papers of Glockner (10 cases), and Olshausen and Kaussmann (8 cases) have been published by the lecturer in the Obstet. Soc. Trans., Vol. XLVI., pp. 369, 371. Of these 18 cases 12 were operable, and gave immediately two maternal and four fœtal deaths. One mother treated by vaginal hysterectomy 17 days after labour survived for five years—Olshausen's case (5¾ years). The final result to the children was not given, but the immediate mortality was five.

Five cases were "inoperable" and were treated by Cæsarean section or Cæsarean hysterectomy with intra-peritoneal or (in 1 case) extra-peritoneal stump. Of the 5 mothers 4 died, and the fifth survived only five months. Of the 18 cases, operable and inoperable, 1 was cured; the total immediate mortality (in all cases operable and inoperable) was 6, or one-third, the operation mortality 3, or one-sixth.

E. Aulhorn[6] has published a series of 10 cases from Zweifel's clinic showing the results of abdominal hysterectomy for cancer complicating pregnancy. Three of the patients were in the last month of pregnancy. One died of pulmonary embolism on the ninth day after the operation; the second recurred within six months; the third was free from recurrence after "a good five years" (no dates or details of the cases are given)—i.e., of the cases in advanced pregnancy a third were "cured." Seven of the patients were in the early stages of pregnancy (up to the eighth lunar month); of these, two recurred (after six months and two years) and five remained free from recurrence for from two to three and a quarter years.

E. Wertheim[7] gives a list of six cases from his clinic. One of these was advanced in pregnancy, but was not in labour. The patient remained free from recurrence five years after the operation of extended abdominal hysterectomy (Wertheim). The case was operated on by Micholitsch. Five of the cases were in the early stage of pregnancy (one at the sixth lunar month, one at the fifth month, and in three the embryo only measured 1 to 3 cm.). One of the patients died of embolism on the fourteenth day after operation; in one recurrence took place; the other three patients remained free from recurrence after five years. Thus, four out of six of the cases from Wertheim's clinic remained well after five years. This is, so far as I know, the best result which has ever been obtained in cases of cancer complicating pregnancy.

P. Glarner[8] has published the cases occurring in the clinic of Professor Wyder at Zurich from 1888–1897. There were eight cases of cancer of the cervix, besides one of cancer of the vagina; all the mothers recovered and two children survived. Three of the cases were in advanced pregnancy. All were treated by Cæsarean section, followed by total abdominal hysterectomy, two children surviving. All the cases recurred and died within a few months. Five of the cases were in early pregnancy. Abortion was induced in 2; vaginal hysterectomy was performed in 1 case; abdominal total hysterectomy was begun (apparently not completed) in 1 case, and was completed in the fifth case. Of the 8 cases, 6 were operated on, but none remained free from recurrence.

Trotta[9] gives a case of his own and a list of 26 cases (occurring between the years 1879 and 1905) of cancer complicating pregnancy in the last three months, which had been operated on by Cæsarean section, followed by total abdominal hysterectomy. The maternal mortality was 38 per cent., the fœtal mortality 23 per cent. Of the 15 patients operated on in labour, 8 died and 7 recovered. He compares the operation with vaginal Cæsarean section, followed by vaginal hysterectomy, where the maternal mortality was 17 per cent., the fœtal mortality 44 per cent. The maternal mortality, after the abdominal operation, was thus more than double, while the fœtal mortality was only half that of the vaginal operation.

Sarwey,[10] in 1908, gave a list of 29 cases of the extended Wertheim operation, in all of which the mothers survived; 12 of these were advanced in pregnancy, and 10 of the children delivered by Cæsarean section survived. The final results are not given. This list, of which the first case is Micholitsch's case, already mentioned, has been widely quoted. It certainly looks remarkable, but it must be remembered that it is made up of *published* cases (so far as known to Sarwey) between the years 1900 and 1908; if all the cases which had *occurred* had been published, it would have included Wertheim's case of death from embolism, operated on in 1905, and perhaps others. Only the thoughtless will believe that it represents the mortality of the Wertheim operation, which, in Wertheim's own clinic, had a mortality of 16·6 per cent., and, even when not complicated with the Cæsarean section required in these cases, has a death-rate of about 18 per cent.

R. Vitanza[11] published in 1898 a paper on amputation of the cervix of the cancerous uterus during pregnancy. Of 7 cases seen, in 3 the cancer had spread beyond the cervix; these were delivered in 2 cases by the vagina, and in the third by Cæsarean section. In 4 of the cases the disease was limited to the cervix; these were all treated by high amputation of the cervix. The first case, five months pregnant at the time of the operation, had a natural delivery at the eighth month, and subsequently had a second child, without recurrence of the growth. The second case, also five months pregnant, was delivered at the ninth month. The child lived two days; the mother had peritonitis, but apparently recovered. The third case was operated on without a suspicion of pregnancy; the patient went to the ninth month and bore a living

Descriptions of Illustrations.

FIG 1. (Case 5.)—Squamous cell carcinoma of cervix. Sketch by author just before operation. (Natural size.) Obstet. Soc. Trans., vol. xlvi.

FIG. 2. (Case 5.)—Squamous cell carcinoma of cervix (low power). Obstet. Soc. Trans., vol. xlvi.

FIG. 3. (Case 6.)—Squamous cell carcinoma of cervix. Sketch by author just before operation. (Natural size.) Obstet. Soc. Trans., vol. xlvi.

FIG. 4. (Case 6.)—Edge of growth (low power). Med. Soc. Trans., vol. xliii.

FIG. 5. (Case 7.)—Squamous cell carcinoma of cervix. Sketch by author of specimen which had been five years in spirit. (Natural size.) Obstet. Soc. Trans., vol. xlvi.

FIG. 6. (Case 7.)—Low power. Med. Soc. Trans., vol. xliii.

[5] In the 8th, 9th, and 10th lunar month.
[6] Archiv für Gyn., vol. xcii., p. 242.
[7] E. Wertheim (Prof. of Dis. of Women, Vienna, died Feb. 15th, 1920), Die erweiterte abdominelle Operation bei Carcinoma Colli Uteri, 1911, p. 196.
[8] Inaug. Diss., Zurich, 1907.
[9] Archiv. di Ost. e Ginecol., April, 1906, p. 192.
[10] Loc. cit.
[11] Archiv. di Ost. e Ginecol., 1898, p. 670; and 1900, p. 257.

FIG. 1 (Case 5).

FIG. 2 (Case 5).

FIG. 3 (Case 6).

FIG. 4 (Case 6).

FIG. 5 (Case 7).

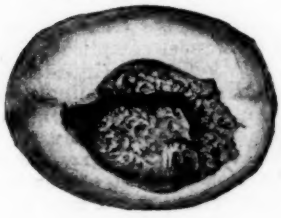
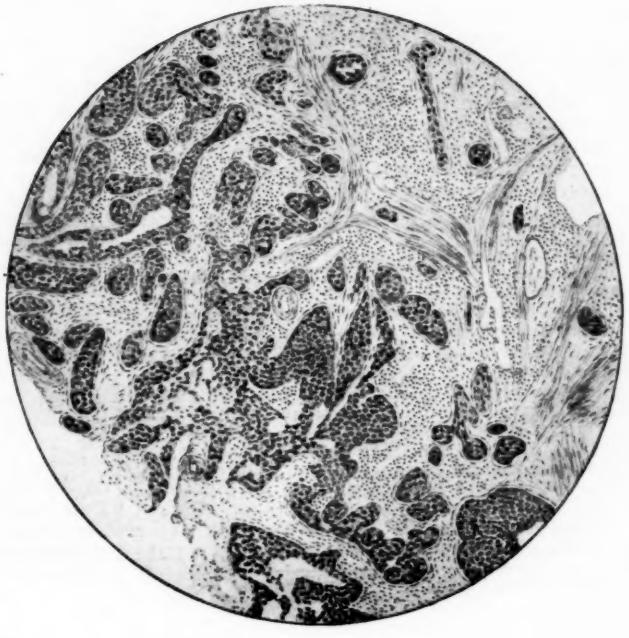


FIG. 6 (Case 7).



child; the mother was well six months later. The fourth case was six months pregnant. Labour occurred at 7½ months; the child lived and the puerperium was normal. There was no recurrence three months later.

Two years later, in the same journal, Vitanza published a paper on 33 cases of high amputation for cancer. Of these 15 were early cases; only 2 recurred, and 9 remained free from recurrence for 3 to 12 years, and in 6 of these pregnancy occurred from six months to three years after the operation. The Pacquelin cautery was used in all cases after the amputation. The preservation of the fœtus, and the possibility of pregnancy following high amputation, as shown by Vitanza's cases and one of mine, are valuable advantages of high amputation which should not be overlooked in considering the question of treatment.

TREATMENT.

The treatment of cancer of the cervix complicating pregnancy varies according as the case is "operable" or "inoperable" and the child is viable or not. The question of operability is usually decided by the absence of fixation of the uterus and of thickening in the parametric tissue, though operation, both vaginal and abdominal, permits the removal of the uterus in certain cases where these conditions are found. The age of viability of the child may be taken for practical purposes as in the last three lunar or two calendar months of pregnancy, in this paper called "advanced pregnancy," pregnancy of shorter duration being called "early pregnancy." In advanced pregnancy the interests of the child and the large size and vascularity of the uterus introduce special problems of treatment and increase the danger of the operation, which is especially great during the course of labour.[12]

The chief modes of operative treatment which have been employed for cancer complicating pregnancy are by high amputation, vaginal hysterectomy, extended vaginal hysterectomy, abdominal hysterectomy, extended abdominal hysterectomy, and combined abdominal and vaginal hysterectomy.

In the course of the last ten years great advance has been made in the treatment of cancer of the cervix by radium, mesothorium, and X rays, and for the last five years in several of the chief clinics of Europe, operation has been almost entirely abandoned in favour of radiation treatment. This method of treatment would seem to entail some risk to the fœtus, and I am not aware that it has been employed during the course of pregnancy. The patients are on the average younger, and therefore presumably stronger than non-pregnant patients, but the disease is apt to be more malignant in the young. The glands are, however, comparatively rarely affected.[13]

Treatment during Early Pregnancy.

(*a*) "Operable" cases should be operated on at once. The opinion once held that cancer complicating pregnancy was inevitably fatal can no longer be maintained. The best results have been obtained by the extended abdominal hysterectomy, Wertheim's results having been unequalled by any other method. In view of the fact that the glands are rarely affected, vaginal hysterectomy (preferably performed with the cautery) may be employed in feeble or fat patients, as it has a much lower mortality than the abdominal operation, and amputation of the cervix may be performed in early cases of squamous carcinoma, in which there is a desire to preserve the life of the child and the fertility of the mother. During labour or abortion the same operations may be performed if the case is not infected; if infected the whole womb should be removed.

(*b*) "Inoperable" cases. If the case is not accompanied by bleeding or infection the patient should be kept at rest and Porro's operation with the serre-nœud be performed when the pregnancy is advanced. During labour or abortion the case should be treated on general principles with a view of preventing infection, and subsequently treated during the puerperium with the cautery, radium, and X rays.

Treatment during Late Pregnancy.

(*a*) "Operable" cases should be treated by Cæsarean section, followed by extended abdominal hysterectomy. If the patient is in fair condition the operation is indicated equally on the ground of science and humanity. If the patient is feeble or the growth infected it might be preferable to remove the cervix by the cautery and then remove the child by the vagina or by the abdomen, and apply radium after, or without, the removal of the uterus. This procedure would probably be safer to the mother than the performance of abdominal Cæsarean section and the removal of the uterus (or the cervix after amputation) by the vagina, but would involve some increased risk to the child. Vaginal Cæsarean section entails too great a risk of implantation of cancer cells; and no case is recorded in which it has been followed by cure.

During labour the risk to the patient is greatly increased. In the early stages of labour Cæsarean section, followed by the extended abdominal hysterectomy, will usually be the best treatment. But if the labour be advanced and the growth not extensive it may be safer to deliver the patient *per vias naturales*, and afterwards at an early period of the puerperium to treat the diseases by one of the methods mentioned. It is noteworthy that five of the seven advanced cases "cured" were operated on after delivery.

(*b*) "Inoperable" cases should be treated by Porro's operation with the use of the serre-nœud. It has the advantage over the conservative Cæsarean section that it removes the placental site from the risk of infection, and over Cæsarean hysterectomy with intraperitoneal stump that, in case of infection, discharges will readily escape by the side of the wire, which can be placed at any height above the growth, provided the placental site be removed. In the case of a dead or putrid child it would be possible by the Porro method to close the peritoneal wound above and around the uterus before the body of the organ was opened or amputated.

During the puerperium the treatment does not differ essentially from the treatment of cases of cancer in the unimpregnated.

At the present time there is a great tendency abroad to treat these cases with radium, mesothorium, and X rays, a reaction having set in against the extended abdominal hysterectomy on account of its high rate of mortality. The late Dr. Pozzi[14] **proposed a restricted vaginal hysterectomy completed by radium therapy in cases of cancer of the uterus. Although such an operation is unsuitable for some cases of cancer during pregnancy, I believe that in the puerperium vaginal hysterectomy, or high amputation performed with the cautery and completed by the application of radium and X rays will be found to give better results than the extensive operations now usually practised.**

The three cases of high amputation described in this lecture, which have remained free from recurrence for 25, 22, and 19 years, are instances of the possibility of cure by simple operations, which are free from danger. As far as I know only two other cases of cancer complicating labour in advanced pregnancy are recorded which have remained well for 5 years after operation—viz., Olshausen's (5¾ years), and Von Ott's (8½ years), both operated on by vaginal hysterectomy in the puerperium. Two additional cases in advanced pregnancy have been cured—viz., Micholitch's (5 years) and Aulhorn's (5 years), both operated on by the

[12] See Trotta, loc. cit. [13] Wertheim, loc. cit.

[14] Revue de Gynécologie, vol. xxiii., p. 209, 1915.

extended abdominal hysterectomy. The former was in advanced pregnancy but not in labour; no information as to the presence of labour was given in Aulhorn's case. I attribute the result in my cases to the use of the cautery (in two of the cases) and of antiseptic douches, and also to the fact that the operation was performed after delivery when the tissues were involuting.

The rarity of cure of cancer complicating labour in advanced pregnancy seems to justify the republication of these cases with a later after-history.

Sarwey, in Veit's "Handbuch der Gynäkologie," while mentioning the title of my former paper in the bibliography, does not allude to the cases in the text. Perhaps the after-history of Case 5 may lead the next German writer on the subject to consider the cases worthy of mention.

VERTIGO.

ESPECIALLY IN RESPECT OF ITS SURGICAL AND MEDICAL TREATMENT.[1]

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VERTIGO, in its various forms and phases, is a common complaint. We can produce vertigo easily in most normal human beings; many can recall their distress, popularly known as "mal de mer," on more occasions than one. By a variety of ways, such as whirling motion followed by sudden change of rate, we can in normal healthy individuals evoke the sensations and manifestations of vertigo. Syringing the ears in a certain way, the application of hot or cold draughts of air to the region of the ear, the passage of electric currents through the head, can all be made to evoke vertigo.

Certain diseases are accompanied by giddiness or dizziness, forced movements and staggering gait, often associated with nausea or vomiting. Sometimes faintness with clammy sweat and collapse are outstanding features of the reaction set up in the vertiginous state. It is therefore no wonder that the medical observer meets with difficulty in finding the true cause of manifestations for which the patient seeks medical aid.

When nausea and vomiting, staggering, and faintness and collapse are prominent features of the attack, one can quite understand that it is the stomach or the heart that the patient and often the physician suspect or regard as the source of the complaint.

Many patients with vertigo are found to have a high blood pressure. In others the blood pressure is considered to be too low. Some are found to have signs of renal disease, such as would indicate certain forms of so-called Bright's disease. When no definite signs of cardiac, gastric, or renal disease can be discovered recurrence of vertigo may be suspected to be due to visual errors, and the more so when visual disturbances associated with giddiness form a prominent complaint. Some error of refraction, if found, is then corrected. Should attacks recur, it would seem instinctive in many to suspect some obscure disease of the brain, and particularly of the cerebellum, as the probable cause of the symptoms.

When no evidence of disorder of the brain can be discovered and the other organs which I have mentioned have been found to be free from definite signs of disease, the case is then diagnosed as one of aural vertigo, or possibly neurasthenia or petit mal.

The Frequency of Aural Vertigo.

The late Sir William Gowers told me personally that in his extensive clinical experience vertigo was associated with some aural disturbance or disease in 99 cases out of every 100 who consulted him with this complaint. So often is the aural complaint completely overshadowed by the more obvious disturbances, such as vomiting, staggering, or faintness, which distress the patient so much more than any auditory defect, that we can quite realise, as medical men, why the patient believes that the true cause of the complaint is elsewhere.

Gastro-enterostomy has been performed upon patients whose gastric complaint was eventually proved to be due to aural vertigo. I have seen patients suffering from disease of the ear, associated with sickness, whose malady had been erroneously diagnosed and treated as that of gastric influenza, gastric ulcer, or even morning sickness of pregnancy. And yet we are all prepared to agree that those who are subject to spontaneous attacks of vertigo when suffering from gross disease of the ear, such as acute or chronic otitis media, should undergo suitable treatment for the ear disease in the first instance.

I have seen the diagnosis of hysteria made in the case of a patient whose vertigo was associated with a polypus in the ear. The distinguished physician was correct in recognising hysterical manifestations, but he was, I believe, advising erroneous treatment when he recommended that the patient should be treated for hysteria instead of for the aural polypus which had set up the vertigo that led to the hysterical state.

It is common knowledge that wax in the ear sometimes causes giddiness until it has been completely removed. I knew a medical man who, having suffered from giddiness, developed mental troubles and neurasthenia, which prevented his practising his profession for many months, until the removal of a very small cake of cerumen which lay in contact with the lower part of his drum, and which had been disregarded by his former adviser.

It is known that suppuration in the ear may be accompanied by spontaneous dizziness and sickness, until the drum has been incised or the mastoid drained.

Vertigo in Labyrinthine Disease.

It is becoming familiar, certainly to aural surgeons, that chronic infection of the temporal bone may lead to erosion of the labyrinth and set up giddiness, which is cured by removal of the disease in the cavity of the middle ear which produced the erosion of its walls.

It has become recognised that it is the duty of the surgeon to distinguish those cases of erosion of the bony labyrinth without infection from those with infection and destruction of the membranous labyrinth, for he must in the latter case be prepared to follow the disease into the labyrinth by opening and efficiently draining the vestibule and semicircular canals, but should generally withhold his hand if the labyrinth responds to stimulation.

Spontaneous vertigo in the course of active middle-ear disease is often, but not always, an imperative and urgent call for surgical intervention. When the vertigo is rapidly followed by signs which indicate that the labyrinth has become

[1] Being the substance of an address read before the Plymouth Medical Society on Jan. 31st, 1920.

completely defunct, we must recognise that we are in face with those manifestations of infective labyrinthitis which generally lead to fatal basal leptomeningitis if nothing be done.

We have been able to trace at the bedside the progress of infection from the ear, through the labyrinth to the basal meninges, and so to the post-mortem table. But its fatal progress can be stayed when passing through the labyrinth if we recognise the significance of the giddiness, character of the nystagmus, forced or erroneous directional movements of the limbs. And we have learnt that the patient may be saved from fatal meningitis by timely drainage of the labyrinth.

So much for the value of vertigo as a sign. Even in meningitis, given the case early, by draining the basal meninges through the labyrinth life may be saved. I refer to the operation for meningitis now known as "translabyrinthine drainage," first described by my colleague, Mr. C. E. West, and myself. But the enthusiastic surgeon must beware lest he open a labyrinth in error, for he may thereby cause the fatal disease which he had hoped to avert. I would recommend such to reconsider the inferences to be drawn when he discovers the true signs of completely defunct labyrinth.

Let us neither fall into the error of treating a possible infective labyrinthitis by procrastination, nor, on the other hand, of treating vertigo impetuously by opening the labyrinth before ascertaining whether the signs justify a diagnosis of destructive labyrinthitis.

Menière's Disease.

I wish now to turn to the class of case which is of more direct interest to the physician. I refer to the group of so-called Menière's disease, which is recognised now to be a symptom-complex. It was one of those extraordinary errors handed down by medical traditions to regard Menière's disease as being due to hæmorrhage into the labyrinth. There is no evidence to support this view to which Menière's writings show that he never laid claim. Almost the only circumstance in which hæmorrhage into the labyrinth occurs, and even then very rarely indeed, is that of leukocythæmia in certain cases.

Menière's one and only post-mortem case of vertigo which revealed any abnormal signs was one which we now claim to be recognised as infective streptococcal labyrinthitis with intensely hypervascular membranous semicircular canals which to naked eye resembles a blood clot, but which really consists of inflamed and engorged tissues infected by long-chained streptococci. The commonest variety of Menière's disease proper is a non-hæmorrhagic and non-infective disturbance of the intact and normally reacting labyrinth. This is so in the vast majority of cases which we meet with in ordinary clinical practice. The symptom-complex is easily recognised. There is generally, but not invariably, a certain defect in hearing with tinnitus. (I have seen many with no defect, also an airman with hyperacute hearing and Eustachian obstruction.[2]) Perhaps the attacks occur more frequently after a common cold in the head or influenza and are ascribed by the patient to his or her being "out of sorts" or "run down." Sometimes the patient is the subject of chronic catarrh of the nose or throat, which may have lasted for years and may be associated with dyspeptic disturbances and perhaps hypochondriasis. The onset of vertiginous seizures is apt to be put down to a "touch of the liver," but its mechanism is unexplained. The patient may actually be under treatment for nasal polypi or some other affection of the accessory sinuses of the nose or throat when troubled with dizziness, staggering, and often nausea, but he rarely regards these maladies as being connected with the cause of the giddiness.

There are, again, other individuals who become subject to vertigo who have not suffered from any of the obvious diseases which I have referred to. Sometimes the physician and neurologist are baffled and, having diagnosed aural vertigo, recommend the patient to consult an aurist. Aurists may find only slight defect of hearing, which he regards as slight nerve deafness, or possibly there seems a tendency to Eustachian catarrh. He is uncertain which is the more important, but it seems of small consequence, and the outlook is regarded as unpromising. The patient returns to the physician with the aurist's report, which perhaps recommends that the patient requires general medical treatment, rest and change, combined with bromides, iodides, perhaps minute doses of quinine, and a little nux vomica to try and avert depression. When these measures fail, or when the vertiginous attack is prolonged or persistent, lasting perhaps several days, it is probably agreed that the question of syphilis must be considered.

In my experience it is indeed most important that, whatever the rank of the patient, the blood should be examined for Wassermann's reaction, and, if the result be doubtful, that the test be repeated in order that adequate treatment may be instituted. But we have no cause to despair even if Wassermann's reaction is assuredly negative.

The state of affairs is extremely unsatisfactory—groping in the dark, searching for the cause and rational cure of a complaint like vertigo, and then falling back on symptomatic treatment. Why is it that we find the cause of the vertigo to be so difficult to reveal? I think it is because we seldom see the patient in the vertiginous state; he has more often recovered than not, and when we do he is so distressed that a thorough examination of the labyrinthine apparatus and vestibular system seems quite impossible. Consequently his symptoms are treated, but not the cause.

Fortunately, through the last 16 years I have had many opportunities of seeing patients when actively vertiginous, both when their symptoms have been due to some gross disease of the ear or brain, and what is still more important, vertiginous when there was no obvious cause discernible, even after a general physical examination. We are all familiar with the latter class.

The vertigo masks other complaints. We have been led to suspect some labyrinthine disturbance; to treat this class of case rationally we must know something more of its precise nature. We see reason for believing it is not cardiac, gastric, renal, not due to local hæmorrhage, nor to local infection (in the obscure class I refer to).

Unilateral Eustachian Inefficiency as a Cause of Vertigo.

The cause, often so subtle to find, and consequently so often overlooked, though admitted as the cause when recognised,[3] is, in my experience, simply unilateral Eustachian inefficiency. It can be proved by looking at each drum while the vertiginous patient attempts to inflate his ears, and noting that

[2] Proc. Roy. Soc. Med., 1917 (Otol. Sect.), Discussion on Vertigo.

[3] Dr. Peter McBride, Dr. Dundas Grant, Dr. Urban Pritchard, and others report isolated cases, in otological literature.

one or both fail to expand. The disturbance caused by Eustachian inefficiency is better known to those who are familiar with the effect of passing through sudden changes of atmospheric pressure, as caisson. Divers know to their anguish the pain in ears caused by entering the compression chamber with a cold in the head, which prevents equalisation of pressure on the drums; giddiness, staggering, or vomiting may occur. High-flying airmen who return from atmospheric pressures of 360 mm. Hg on the drums of the ears know the necessity of "clearing" the ears by some procedure, such as "frequent swallowing" or by self-inflation by Valsalva's method. The Eustachian tubes are normally closed, except during the act of swallowing, when they should open for the fraction of a second and close again like the shutter of a camera.

It is when the tubes fail to open through some inefficiency, such as is produced by congestion or swelling of the mucous membrane due to a cold or catarrh, or when blocked by tenacious mucus or by temporary engorgement of the blood-vessels which supply the pharyngeal end of the tube, that the regulating action fails. A too tight collar in some is known to produce the same result. Why is this mechanism necessary? Because, as I have shown from laboratory experiments, a sudden change of pressure from low to high or high to low in the normal labyrinth on one side, or an asymmetrical change of pressure through the two sides, sets up temporary vertigo with nystagmus and other forced movements which characterise vestibular disturbances.

Treatment.

What, then, is the treatment for the great majority of cases of so-called Menière's disease? Having scientifically excluded other factors, the treatment is directed to the Eustachian tubes. Continue to treat local catarrh and remove its cause, and train the patient to keep his Eustachian tubes free. Carry a Politzer bag, and if you intend to make sure of arresting an attack or series of attacks employ the Eustachian catheter. Do not despise it. Learn its uses accurately and carefully, for cases needing experience and practice are common. Only in cases of special difficulty need the physician despair. Are we, then, to regard bromides, iodides, purgatives, rest, and so on as erroneous measures? Far from it; their value is too well known, but their method of acting is not altogether clear. Is it possible that bromides diminish the reactivity of the individual to labyrinthine disturbances? Perhaps the iodides influence the naso-pharyngeal secretion of mucus and make it more watery, as in other parts of the air-passages. Quinine in minute doses, though possibly sedative to the vestibular system, just as large doses are irritative, may also derive its reputation from its anti-catarrhal action, for we know of certain persons, subject to winter head colds, who appear to derive immunity while taking minute doses of quinine daily without other drugs, or change of habits, residence, or mode of living.

We do not know with certainty how these drugs succeed and why they often fail, but I have attempted to suggest how they may sometimes succeed in restoring Eustachian tube efficiency. If this is a correct interpretation it enables us to understand the subtle relationship between the majority of cases of recurrent vertigo, commonly known as Menière's disease, and Eustachian tube obstruction or inefficiency.

FRACTURES OF TIBIA AND FIBULA: THEIR TREATMENT BY PLATING OPERATIONS.

BY C. FREDERICK STRANGE, M.R.C.S., L.R.C.P. LOND.,

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DURING the past year I have had a very large number of fractures of the lower limb under my care at No. 1 Chinese General Hospital. This paper deals with 15 consecutive cases in which I have plated the tibia, and in some cases the fibula also. In all cases under consideration both these bones were fractured.

The hard work that fell to the Chinese Labour Corps behind the lines and at the bases and ports where munitions and stores were unloaded had exposed them to accidents of all kinds. No. 1 Chinese General Hospital had 2000 beds, it had the status of the usual general hospital in France, and in its equipment and general management left nothing to be desired save that all the nursing was done by Chinese male dressers. There has never been a matron and staff of nursing sisters. It is true that during the first six months the hospital was in existence we had no X ray department, but this was installed later, thus making the equipment complete. Before its installation all cases needing radiography were taken to Abbeville, ten miles away.

The injury in the cases to be described was severe, as in every case both bones were broken. In the great majority of the cases the fracture of the fibula was at about the same level as the tibia, being the result of direct violence, and in many instances the bones were badly comminuted at the site of fracture.

It is encouraging to note that in each of the 15 cases a perfect result was obtained, despite the absence of a highly trained nursing staff. All were cases of simple fracture due to direct violence, except perhaps one, in which the skin was broken at the level of the break; the wound did not communicate with the fracture, and operation was delayed until this was healed. I do not advocate plating of compound fractures. Experience in our military hospitals during the war is directly against this procedure unless under exceptional conditions.

Importance of Expert Technique.

It is now 25 years since Sir W. Arbuthnot Lane first introduced the then novel and revolutionary treatment of operating on cases of simple fracture and uniting the fragments in position by plates screwed into the bones. Since then many surgeons have adopted the practice in selected cases with varying results. Many have made hopeless failures through bad technique or lack of surgical skill, and consequently this treatment of fractures is frequently derided. But this series shows that, if the principles of aseptic surgery are scrupulously carried out and the operating surgeon understands the technique of bone plating, this method, far from being a failure, becomes an unqualified success.

Undoubtedly a very great deal depends upon the skill of the operating surgeon, and this method of treatment should only be adopted by those who possess that necessary gift. Many brilliant general surgeons, according to Lane, do not advocate the plating of simple fractures because they are not conversant with the technique of bone plating.

Desirability of Early Operation.

Speaking generally, the nearer the time of the operation to the date of the injury the better will be the result. It certainly makes the operation infinitely easier if it is performed before callus has been laid down. If the operation takes place within 14 to 21 days after the injury the ends of the fragments are clean, sharply defined, and when brought together dovetail into each other beautifully, so that the result is perfect, with no shortening of the limb and no stiff joints; in fact, a limb as sound and useful anatomically and functionally as the one unbroken.

For the first six months I was working at a great disadvantage in the absence of X ray installation at the hospital. This fact has, fortunately, not militated against the results of the first cases, which are in every way satisfactory. From personal observation of hundreds of fractures, especially of the tibia and fibula, where both bones are transversely broken and there is great displacement of parts, I have come to the conclusion that no other treatment offers the patient the same hope of getting a perfect limb, functionally and anatomically, as an early plating operation.

Treatment of Two Cases of Long Standing.

I have learned that in plating old-standing cases of fracture of both tibia and fibula, where there is mal-union with shortening of the limb, it is not sufficient to deal with the tibia alone; it is necessary to cut down upon the fibula, expose the fracture, and chisel through the callus *before* putting the plate on the tibia. Case 24330 shows this. In this instance I did not interfere with the fibula. The operation was undertaken four months after the injury, and there was strong callus formation both of tibia and fibula. I should have obtained a better result had I exposed the fibula and chiselled through the callus uniting it in the mal-position in which the radiograph showed it to be. This manœuvre enables more freedom of movement in getting the tibial fragments into perfect apposition, which is the most important consideration.

To get an ideal strong tibia it is necessary to have the lines of force conducting the body-weight in the same vertical plane, and not to have them transmitted to the lower fragment through a deflection, as in mal-union. This ideal can only be obtained by a method, such as a plate, which keeps the broken fragments in perfect apposition.

In only one case (No. 6724) had I to shave the broken ends in order to bring the fragments of the tibula and fibula into apposition. In this case there was excessive shortening (2½ inches) and the operation was not undertaken until eight months after the injury. There was no union of either bone. This was the more remarkable because at the same time the patient had sustained fractures of the right humerus, ulna, and radius. When he came under my care all these fractures were perfectly healed, with full use of his right arm. His left leg was encased in plaster, and on removing this I found the limb shortened as above with no union at all. There were pressure sores on the heel and over the lower end of the upper fragment of the tibia. The radiograph taken showed grave displacement of the bones, the ends being eburnated and rounded with no attempt at callus formation. He had not left his bed for eight months, as he was unable to put his foot to the ground. Operation was postponed till two months after the pressure sores were healed. Eventually the patient only had ½ inch shortening, which is very little considering the great displacement and the long time elapsing between the injury and the operation. When he had been on duty a month he met with another accident to his left leg, falling heavily over a tent rope in the dark. He was readmitted into the hospital under my care with his left knee-joint distended with blood, but the bones and the new union had stood the strain of the fall without giving way. I maintain that no other method of dealing with the fractures would have given such an eminently satisfactory result.

Of the whole series this is the one operated on at the greatest distance of time after the injury—namely, eight months, and yet the end-result has been all that could be desired except for the inevitable shortening.

The Technique.

A few observations about the technique employed, the incision, and the after-treatment may be of some interest.

The incision should be a long one—9 to 12 inches. The best position for the incision is a quarter of an inch external to, and parallel with, the crest of the tibia. This should be performed with one cut, which goes through skin and superficial and deep fascia, exposing the tibialis anticus, which is then gently separated from the tibia with a periosteal elevator. No vessels or nerves are encountered in this incision, and it gives access to as much of the tibia as need be exposed. It is a great mistake to make the incision too short, and there is no need to make it over the superficial surface of the tibia. Another incision over the fibula should be made if that bone has to be exposed. It is essential to have a complete set of Lane's special plating instruments, and another essential, in my opinion, is to have plenty of assistants; three are the minimum, and four are desirable. One is told off to hold the foot and to do nothing else, as very much depends upon this assistant carrying out the minute instructions of the operating surgeon. Lane's large long-handled curved periosteal elevators are now passed round the tibia from either side, completely exposing the fracture; the ends are seized with the special bone-holding forceps and the fracture brought out of the wound. The ends are cleaned and brought into perfect alignment and apposition, and held in place with another special forceps, which allows a plate to be placed over the fracture without again disturbing the forceps holding the fragments in place.

The Site of the Plate.

In every case the plate should be applied to the external surface of the tibia, which is as easily exposed as the antero-internal surface. Here the plate is screwed on and is tucked away between the tibia and the fibula, out of the way of all tendons passing to the foot.

A fairly long plate should be used, 6 or 8 inches long, with room for three screws on either side of the fracture. If the fracture is in close proximity to the ankle-joint shorter plates bent to the curvature of the tibia should be used.

In fractures involving the tibia 1 to 3 inches above the ankle-joint the incision needs to be carried downwards in front of the joint and the tendons of the tibialis anticus and extensor proprius hallucis drawn outwards. These tendons never need be severed. The upper part of the anterior annular ligament may need to be severed, but this is not

important; it reunites and its function is not impaired.

Further Details.

The plate and screws should be kept in boiling water until they are wanted, and grasped by means of instruments. The operator should not touch the patient with his hands from the beginning to the completion of the operation. No vessels will need ligaturing; if any are cut they should be clamped with Spencer Wells, which can be removed before the wound is closed by Michel's clips, which are ideal for this purpose. Thus not a single ligature or stitch is used; in fact, frequently even with much exposure of the tibia not a single pair of Spencer Wells is required, as with careful technique not a single blood-vessel needing ligaturing is encountered. Moist eusol dressings are applied to the wound and the limb is firmly bound over cotton-wool. I prefer to keep the limb slung in a Thomas splint with a moderate amount of extension until the clips are removed 11 to 14 days after the operation. Six weeks later it should be difficult to find the incision. Passive movements of the knee- and ankle-joints are commenced when the clips are removed. After a month the limb should be put on to a back splint with a foot-piece.

Massage, if necessary at all, should not be commenced till two months after the operation. Usually it is not required at all. After three months, but not before, the patient may be allowed to walk, putting weight upon the limb. By then the callus uniting the bone is sufficiently strong to stand the weight of the body, although it may not reveal its presence in a radiogram. After four months the fractured limb should be as strong and useful as the good one, with no disability whatever, no shortening, and not a vestige of stiffness in any joint.

This sounds very ideal, but in all the cases described it was the result obtained, the only case of shortening being the one where the ends of the bones, eight months after the injury, had to be pared to give them approximating surfaces. If the patient is anxious to get about after a month he may be allowed up in a calliper splint, but it is better not to permit even this until two months after the operation.

In my opinion the reason that screws work loose is that weight is allowed to be put upon them before there is a sufficiently strong callus laid down; this is not strong under three months. The function of the plate and screws is not to bear or even transmit weight; it is simply a scaffolding to hold the fragments in apposition and correct alignment until Nature has supplied the new bone, which it always does in my experience. I have never seen a loose screw in any of my cases of tibial platings.

Details of Cases.[1]

CASE 986.—Admitted 7/2/18 with fracture of left tibia and fibula. Large piece of wood fell on the left leg causing transverse fracture of the bones just above the ankle-joint. Brought the same day from Dieppe. Radiograph showed great displacement of the lower fragments inwards.

18/2/18: *Operation.*—Tibia exposed by longitudinal incision along the outer side of the tibial crest. The fragments thoroughly exposed and isolated and easily brought into excellent apposition. The plate was first bent to accommodate itself to the outward slope of the tibia and screwed on, maintaining the broken fragments in apposition. Wound closed with Michel's clips. No vessels were cut or ligatured during the operation. Limb put up on back splint with foot-piece and side pieces.

1/3/18: Michel's clips removed; the wound perfectly healed; movements of knee- and ankle-joints carried out. 4/3/18: Daily passive movements of joints. 16/3/18: Radiographed; shows fragments in perfect apposition and the fibula also brought into good alignment. 17/3/18: Splints removed. 17/4/18: Getting about with aid of crutches. 18/5/18: Walking quite normally with no assistance from crutches or sticks, no discomfort of any kind complained of. 18/6/18: Radiographed; shows excellent callus formation with bone in perfect position. The fibula now is united with no displacement of parts. 22/8/18: Radiographed; it is now not possible to see where the break occurred, the fibula has come into perfect alignment and a new medullary cavity is in process of formation. 27/8/18: Discharged to duty. This has resulted in an eminently satisfactory way.

CASE 24330.—Admitted 29/11/17 with fracture of right tibia and fibula 4 in. above ankle-joint, having been knocked down by a motor lorry. The M.O. in charge of ward put him up in a box splint. Massage commenced 8/12/17; fragments apparently in good position. 17/12/17: Slight œdema of leg; no sign of callus formation. 10/1/18: Considerable œdema and tenderness over site of fracture. 14/1/18: Put up in a Thomas splint with extension. 25/1/18: Thomas splint removed. Patient cannot elevate leg from the bed, but can move his toes and flex his ankle. (At this stage patient came under my care.) 9/2/18: Radiographed; shows fragments in very bad position, greatly displaced laterally and inwards.

20/2/18: *Operation.*—Longitudinal incision 9 in. long on outer side of crest of tibia; bone exposed; callus broken down and chiselled away. Fragments brought into good apposition. Plate screwed in on outer surface of tibia, wound closed with Michel's clips; limb put up in a Thomas splint.

5/3/18: Michel's clips removed; wound completely healed; passive movements of knee- and ankle-joints commenced. 17/3/18: Thomas splint removed. 25/3/18: No shortening of leg; ankle-joint normal. 3/4/18: Radiographed; shows fragments of tibia in fairly good position, but it also shows that if the fracture of the fibula had been broken down at the operation the result would have been much better. The fibula being firm made it difficult to get the tibial fragments into the best position. 17/4/18: Getting up on crutches. 25/6/18: Radiographed; shows excellent callus formation. 5/8/18: Discharged to duty. Limb strong and free from pain or any discomfort.

CASE 59790.—Whilst at work accidentally knocked down, fracturing the left tibia and fibula. Admitted two months later with ¾ in. shortening of leg. 8/3/18: Radiographed; shows oblique fracture of the tibia at junction of middle and lower thirds, with much displacement of lower fragment outwards and fracture of fibula in upper third.

28/3/18: *Operation.*—Site of fracture in tibia exposed through longitudinal incision to outer side of the crest. The callus was chiselled through, the ends of the bone cleaned and brought and held in good apposition with much difficulty, owing to the shortening of the fibula. The plating was done three months after the accident at the special request of the patient. The callus was well formed, but not very hard. Wound closed with Michel's clips, and limb put up in a Thomas splint with extension.

10/4/18: Michel's clips removed; wound perfectly healed. 28/4/18: Splint removed; movement of joints free. 28/5/18: Getting about on crutches; no shortening of limb. 28/6/18: Allowed to walk without aid. 6/8/18: Radiograph shows firm union, with plate and fragments in excellent position. 22/8/18: Radiographed; shows perfect bony union, and no trace of the break. 27/8/18: Returned to duty, a most satisfactory result.

CASE 21681.—Admitted to hospital 6/3/18 with fracture of left tibia and fibula. Whilst at work on the railway a sleeper accidentally fell on to his left leg, causing the above injury. He had previously to my seeing him been treated in a box splint. Shortening of limb 1 in.

[1] A series of excellent radiograms accompanied this article and fully bear out the statements in the text.—ED. L.

X rays showed fragments to be in very bad position, with outward displacement of the lower fragments of both tibia and fibula.

9/4/18: *Operation.*—Longitudinal incision 9 in. long to the outer side of the crest of the tibia. Muscles separated from the tibia and the site of the fracture exposed. A fair amount of callus had to be chiselled through. The ends of the fragments were cleaned ready for apposition. Before doing this a separate incision over the fibula was made, the bone and fracture exposed, and the callus uniting the fibula in the malposition chiselled through. It was then quite easy to bring the tibial fragments into apposition. This being done, a plate was screwed on, the tibia being in excellent alignment. No plate was put on the fibula. Wound closed with Michel's clips.

21/4/18: Clips removed; primary union. 6/5/18: No shortening of limb. 18/5/18: Massage; patient allowed up on crutches. 18/6/18: Walking with aid of sticks only. 30/6/18: Walking well and painlessly without aid. 28/7/18: Patient walking normally. He has never complained of any discomfort or disability whatever since the operation. 5/8/18: Returned to duty.

CASE 6724.—Admitted to hospital 13/3/18 with ununited fracture of left tibia and fibula (1/9/17). Whilst attending machinery he was caught in a revolving lathe, whirled round, and then thrown violently to the ground, fracturing left tibia and fibula and the right humerus, radius, and ulna. Taken to a hospital in Boulogne for six months, where the humerus, radius, and ulna united perfectly with excellent functional result. On admission the left leg was in plaster. This being removed, the tibia and fibula were found to be ununited; there was a pressure sore on the heel of the left foot, and another one over the lower end of the upper fragment of the tibia. Operation was deferred until the pressure sores were quite healed.

25/4/18: *Operation.*—A longitudinal incision 9 in. long was made ¾ in. to the outer side of the crest of the tibia, the bone exposed, and the muscles separated. The ends of the fragments were rounded and eburnated. There was a slight amount of callus between the apposing lateral overlapping surfaces of the tibia, but none from the ends, the foot being quite flail. The ends were sawn off. Through a separate incision over the fibula this bone was exposed and found to be in the same state as the tibia, the ends rounded, and no callus thrown out. The ends were sawn off. Then the tibial fragments were brought into perfect apposition and a plate screwed on holding them in good position. A plate was also put on to the fibula. The wounds were closed with Michel's clips and the limb put on a back splint with a foot-piece.

9/5/18: Clips removed; wounds perfectly healed. 16/7/18: Radiographed; shows excellent position of bones. 26/8/18: Walking without pain and without aid. 10/9/18: Plate on fibula removed as it was subcutaneous and in the way of a boot, the upper rubbing against it. 16/10/18: This has been a most satisfactory case. When he came he had no union, had been unable to put his foot to the ground, and was confined to bed. Now he walks perfectly well, with no pain or discomfort. 18/10/18: Discharged to duty.

CASE 45619.—Fracture right tibia and fibula. Admitted to hospital 21/6/18 with history of a piece of wood having fallen out of a lorry on to his leg, causing a transverse fracture of both bones at the junction of the middle and lower thirds. X ray showed transverse comminuted fracture of tibia and fracture of fibula at the same level, lateral displacement, and antero-posterior bending.

8/7/18: *Operation.*—Incision to outside of crest of tibia 9 in. long, exposing the bone. At the site of the fracture there was a large triangular-shaped piece of the tibia broken right away from the bone, from the external and posterior aspects, just where the plate should be fixed. The ends of the tibia were cleaned and brought into good apposition, and a plate applied and screwed on over the triangular broken piece, which was held in position by the plate, but no screws were driven through it. The wound was closed with Michel's clips and the limb put up in a Thomas splint with extension.

15/7/18: Michel's clips removed; wound healed, primary union. 20/7/18: Thomas splint replaced by a short back splint with foot-piece. 20/8/18: Splint removed. 22/8/18: Radiographed. X ray shows parts in excellent position and quite a fair amount of callus formation. The triangular piece of bone, which was completely severed, is in excellent position. 8/10/18: Radiographed; very satisfactory result shown. 30/10/18: Getting about and helping in the ward. 2/11/18: Discharged to duty.

CASE 28572.—Fractured right tibia and fibula. Admitted 31/5/18. While attending a water-cart it tipped up and fell on patient's leg, causing a fracture of the right tibia and fibula. X ray. Radiograph shows transverse fracture of tibia and fibula at the same level, at the junction of the middle and lower thirds, with inward displacement of the lower fragments. There is also some comminution of both bones.

8/7/18: *Operation.*—The tibia was exposed through a longitudinal incision external to the crest and the fracture exposed. Some soft callus was chiselled away and the ends brought into excellent apposition. Plate applied to external surface and screwed on. Wound closed with Michel's clips and limb put up in a Thomas splint with extension. With a view of obtaining a good result without operation this fracture was treated in a Thomas splint with extension for a month. Extension was continuous and adjusted every day, yet at the end of a month there was still shortening and malposition of fragments.

17/7/18: Clips removed; wound perfectly healed; kept on splint. 22/7/18: Thomas splint removed, back splint and foot-piece applied. 23/7/18: Radiographed; parts shown to be in excellent position. 5/9/18: Right knee-joint found swollen, not painful. Aspirated. 2 ounces clear straw-coloured fluid removed. 8/9/18: Stereoscopic radiograph shows tibia in excellent position. 16/11/18: Radiographed; as above. Measurements both legs equal. 28/11/18: Discharged to duty.

CASE 4807.—Admitted 28/6/18 with transverse fracture of left tibia and fibula only 1½ in. above the ankle-joint, caused by foot being run over by a light railway truck.

10/7/18: *Operation* 12 days after the accident; very much displacement of parts. Small plates were put on both tibia and fibula. The plate applied to the tibia had to be bent so as to conform to the curvature of the bone. Both tibia and fibula were brought into perfect apposition. Wound closed with Michel's clips. Limb put up in a Thomas splint with weight extension.

18/7/18: Michel's clips removed; wounds perfectly healed. 26/7/18: Thomas changed for back splint with foot-piece. Movements of joints carried out. 19/8/18: Back splint removed; knee- and ankle-joints freely mobile. 2/10/18: Allowed to get up and walk with aid of crutches. 21/1/19: Discharged to duty. Limb as sound as the one unbroken, no shortening and perfect union of fragments, no break being visible in the X ray.

CASE 130213.—Admitted 28/6/18 with transverse comminuted fracture of the right tibia and fibula, injury five days previously, lower fragments displaced outwards.

12/7/18: *Operation* 19 days after the injury. The ends of the broken tibial fragments were cleaned of intervening tissues and brought into good apposition. On the postero-external aspect a triangular piece of the tibia was broken right off, being quite separated from the bone. This was replaced in position and the plate applied over it, though no screws were driven into it. The fibula was exposed through another incision, and a small amount of callus already formed chiselled away and the ends brought into perfect apposition and a plate applied. The wounds were closed with Michel's clips and the limb put up in a Thomas splint with extension.

20/7/18: Michel's clips removed and wounds perfectly healed. 22/7/18: Thomas splint substituted for back splint with foot-piece. 19/8/18: Splint removed; movement of knee- and ankle-joints perfect. 2/10/18: Allowed up and to walk with aid of crutches. 25/11/18: Getting about without stick or crutches. 21/1/19: Discharged to duty. The limb is the same length as the other; no pain, no disability of any sort, and the point of

union of the bones has disappeared, and the medullary cavities are normal.

CASE 37651.—Admitted 19/8/18 with transverse comminuted fracture of the right tibia and fibula 2 in. above the malleoli, the lower fragments being displaced inwards.

28/8/18: *Operation* ten days after the injury. Longitudinal incision along outer border of crest of tibia. Fragments exposed and brought into perfect apposition. Plate screwed on to outer surface of tibia, holding the fragments in excellent position. Wound closed with Michel's clips. Limb put up in a Thomas splint with weight extension.

7/9/18: Michel's clips removed; wound perfectly healed; limb put up on back splint with foot-piece; movement of joints carried out. 28/11/18: Allowed up on crutches. 28/12/18: Up and about, no stick or crutches being used. 21/1/19: Discharged to duty. Limb as sound and useful as uninjured one; no shortening, no lameness, no disability of any kind. An excellent result.

CASE 92666.—Fracture right tibia and fibula. Admitted to hospital 12/8/18 with history of being struck by iron crane while working on the wharf at Dieppe. Radiograph showed very nasty comminuted fracture of both tibia and fibula, with much displacement of fragments, the lower fragments displaced outwards.

10/9/18: *Operation.*—Longitudinal incision to outer side of the crest; fracture exposed. Great difficulty was encountered in getting the fragments into good position on account of the amount of comminution of the posterior aspect of the bone at the site of the fracture. Plates applied and screwed on, holding the fragments in a very good position. Wound closed with Michel's clips. Limb put on back splint with a foot-piece. The skin was broken near the wound, but this was avoided.

22/9/18: Michel's clips removed; wound perfectly healed; movement of joints carried out and limb replaced on splint. 30/11/18: Commencing to get up on crutches. 5/12/18: Radiographed; tibia and fibula in perfect alignment, with excellent callus formation; medullary cavity in fibula commencing to be formed. 13/1/19: Radiographed; excellent result. The site of fracture can still be seen in the lateral view only. 10/2/19: Radiographed; excellent result. 12/2/19: Discharged to convalescent ward.

TOPOGRAPHIC PERCUSSION AND VISCERAL TONICITY.

BY ALBERT ABRAMS, A.M., M.D., LL.D.,

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IN a recent communication,[1] "L'orientation des animaux et les influences magnétiques," by Jules Regnault, before the Society of Comparative Pathology, the following observation is made:—

"My studies on orientation have been controlled by the observation of Abrams. To obtain the best results subjects must stand on a grounded plate and colours and intense light avoided. Under these conditions my investigations with colleagues at Vichy, Granville, and Toulon show the following: When the heart area was defined by percussion (patient facing west), then percussed again with the patient facing east, north and south, the area of dullness was notably diminished in the latter positions. The liver border in the right parasternal line diminished 2 to 4 cm., and the upper heart border was lowered from 8 to 10 mm. when the subject was turned from the position 'face to the west' to the position 'face to the north.' We proved Abrams's studies, which show that the visceral reflexes[2] attain their maximum reaction from electronic energy[3] when the subject faces west."

[1] Séance, July 8th, 1919; THE LANCET, 1919, ii., 498.
[2] Handbook of the Medical Sciences, vol. vii.
[3] International Clinics, vol. i., 27th series.

In my book on "New Concepts in Diagnosis and Treatment" (1916) I have expressed myself as follows:—

"Tone is an essential attribute of all living organisms, and relaxation is its antithesis. The nerve centres are in a condition of tonic excitation, from which impulses pass to the viscera, maintaining them in a state of tonic stimulation. Every living being transforms energy from the universe. The ideal man is a perfect transformer, and 'Life is a continuous adjustment to the environment' (Spencer). The attraction of man by the sun and the mechanical energy imparted to him by the sun, rotation of the earth, atmospheric pressure, and the electric potential at billions of volts all influence the microcosm by the macrocosm—the world machine."

The writer has shown that the magnetic elements influence visceral tonicity, and that the output of energy varies in relation to the posture of the individual, because the intake of energy is similarly influenced. The organs are in a varying state of tonicity, and the tone may be normal (orthotonic), increased (hypertonic), diminished (hypotonic), or absent (atonic). A relaxed organ will yield a smaller area of dullness than an organ which is in a state of tone.

To accurately reproduce the area occupied by an organ it must possess tone, otherwise topographic percussion is unreliable. It is easy for the physician to show that the borders of the heart will vary according to the posture of the patient, on whom percussion is executed. It will be found that the area of the heart, or, for that matter, any viscus will be greater when the patient faces the geographic west than when he faces the other points of the compass. Note that, when the patient stands in the magnetic meridian supreme tonicity is conferred on the viscera. The latter manœuvre is equivalent to organismal induction from cosmical energy. The writer wishes to emphasise an important fact in the technique of sphygmomanometry (like percussion)—viz., the necessity of taking pressure in a definite position.

Any physician can easily prove that variations, however slight, do occur, and they are most manifest when the patient faces the geographic north during the time pressure is taken. Vital phenomena are dynamic, and organismal action is a process, not a structure. All problems dealing with the physiology of man not in accord with the progress made in physical science are doomed to perish.

In my book the electrophysiologic structure of man is shown with the hands and feet as polar termini. With an apparatus constructed by the writer (electroradiometer) it can be definitely shown that the polarity of the hands and feet of a normal male is positive on the right and negative on the left side. This polarity is reversed in the normal female.

Let the reader forget for a moment that the latter observation is correct and try the following. Percuss the area of the heart with the patient facing the geographical west. Instruct the patient to bring both feet in apposition. Note that the area of the heart is diminished. Instruct the patient to approximate his finger-tips in addition to his feet, and note that in many instances the area of cardiac dullness is practically annihilated. Note, furthermore, that the moment the feet of the patient are approximated, there is a momentary inhibition of the pulse. When the feet and hands are approximated the manœuvre may be likened, in the animal machine to a short circuit in a

dynamo which discharges the current within the machine, thus causing its deterioration and minimising its energy output.

Let percussion of the heart teach us another lesson in the physics of the human organism. The reflexes of Abrams demonstrate that the earth is the negative terminal of nature's energy; that when the electrical tensions between the body and earth become equalised the maximum tonicity is conferred on the viscera. Ground each leg of a patient by means of a wire to a faucet or radiator, and note that the intensity of cardiac dullness is greater after than before grounding. Note also the effect when the patient approximates his feet and hands, and note, furthermore, that the maximum intensity of cardiac dullness is attained when the patient is grounded and stands in the magnetic meridian. The writer has utilised therapeutically the latter data for the purpose of minimising the expenditure of nervous energy in neurasthenia.

GENITO-URINARY TUBERCULOSIS

TREATED WITH MASSIVE DOSES OF TUBERCULIN.

BY ROLF CREASY, M.R.C.S., L.R.C.P. LOND.

IT is common experience that, if we except such radical treatment as the removal of kidney or testicle, the amount of good that we can do to cases of tuberculosis of the genito-urinary system is very small, consisting mainly in the prescribing of sedatives to allay the most distressing symptoms. I bring forward the following short series of cases, which are examples only of a longer list of tabulated instances, in order to show that the administration of tuberculin, in accordance with certain methods, may relieve many patients from wretched suffering, constant pain, and the wearying anxiety of frequent micturition night and day. The relief may amount to cure, and in most of the cases with the relief of symptoms there have come great improvement in general health and marked increase of energy. Many cases which I have treated had been under treatment for varying periods in hospitals, and had found no sustained relief; it is in these patients that reviving hope has been of much assistance towards rapid improvement.

In the light of experience gained from these cases I am sure that many sufferers from genito-urinary tuberculosis, if coming under treatment by tuberculin sufficiently early, and in accordance with a suitable technique, are susceptible of great improvement. But the tuberculin test having proved positive the treatment should be commenced forthwith. There should be no delay until tubercle bacilli are found in the urine; although cases of long standing will apparently respond well to the treatment and can be arrested in their otherwise downward course, prognosis is much improved if the cases are taken early in hand and gradually increasing doses of different preparations of tuberculin are administered over a period of six months to a year. A second or third course may be required after intervals of varying length, and there can be no attempt to lay down exactly a routine treatment for any and every patient.

The technique employed in the appended cases was the following. The injections, which were subcutaneous and usually in the upper arm, were given twice weekly, the weight being recorded and the patients taught to take and record their temperatures four times a day. It will thus be seen that the treatment can be carried out at any distance from the physician's house, the dose being prepared after study of the temperature and weight record, which should be sent twice a week to the physician, when the proper procedure can be indicated to the medical man in private charge of the patient. In this way the treatment need not interfere with the patient's daily occupation; where necessary and in old-standing cases two or three courses of injections can be spread over several years, while the word "cure" should be used concerning no patient until he or she has lost all symptoms and no longer reacts to tuberculin. I append short notes of typical cases at different stages of treatment.

Miss I. P., 23. Six years' history. Onset, frequency and pain. T.B. present in urine. Cystoscoped; isolated tubercles L.U.O., retracted, tuberculous nodules. Micturition half-hourly day and night: severe pain, not relieved by micturition. Tuberculin treatment May 13th to Dec. 12th, 1919: P.T.O., P.T., and Old T. to 1·5 c.cm. Gained 1 st. in weight; much less pain. Frequency, $\frac{\text{day, 6 to 8}}{\text{night, 2 to 4.}}$ Is stronger and better in every way.

Mr. F. B., 50. Twenty years' history of frequency and pain on and off. Hæmaturia on some 12 occasions. T.B. present in urine. Micturition, very little control; wears indiarubber bag. Cystoscoped; incrusted cystitis, several hæmorrhagic ulcers, tuberculous nodules in both epididymes. Tuberculin treatment May 10th to Dec. 3rd, 1919. P.T.O., P.T., and Old T. to 1·5 c.cm. Gained 1 st.; discarded rubber bag. Frequency, $\frac{\text{day, 5 to 6}}{\text{night, 0 to 2}}$, no pain, no hæmaturia.

Mr. F. B., cystoscoped February, 1920. Great improvement; examination not painful; ulcers healed. Maintains his good condition as recorded at end of his course of tuberculin two months ago.

Mr. W. T. S., 37. February, 1918. Right testicle removed for tubercle. Ailing since January, 1919, unable to work since March, 1919; weakness and pain in right kidney. May, 1919: Report from St. Mary's Hospital. "Right kidney removed, pulmonary tubercle on right and left upper lobes." August, 1919: Wasting and debility, frequent micturition. Frequency, $\frac{\text{day, 8 to 9}}{\text{night, 3 to 4}}$. Free purulent discharge from pouting sinus in old nephrotomy incision. Cystoscoped; patches of ulceration, numerous, also isolated tubercles; ʒ vi.; distension, urine dirty. Tuberculin treatment August 5th, 1919, to Jan. 20th, 1920: P.T.O. and P.T. to 0·5 c.cm., course proceeding. Gained over 1 st. in weight; discharge almost ceased. Frequency, $\frac{\text{day, 4 to 5}}{\text{night, 1 to 2.}}$ No chest symptoms.

Mrs. G. M., 35. Three years' history of pain and frequency. Onset, hæmaturia. Cystoscoped; many tubercles on trigone, and on lips of both U.O.'s. L.U.O. large, gaping, œdematous. Pain constant, at times very severe, requiring morphia. Patient wasted, sleepless, tired out. Micturition every half hour, night and day. Tuberculin treatment May 1st to Nov. 18th, 1919: P.T.O., P.T., and Old T. to 1 c.cm. Gained 8 lb., different woman, greatly improved, doing own housework. Occasional attacks of frequency and pain. Usually frequency, $\frac{\text{day, 4 to 5}}{\text{night, 1}}$, and pain very slight; no morphia since May.

Mrs. G. M., Feb. 21st, 1920. Nursed her child through six weeks' severe whooping-cough and bronchopneumonia. Some return of pain and frequency; this again subdued by a few further injections of bacillary emulsion.

Mrs. F. S., 42. Seven years' history, occasional hæmaturia pain varying, often severe. Frequency,

day, ½ hourly / night, 8 to 10. Cystoscoped; ulceration of bladder. T.B. found in urine. Patient weak, tired, and unfit for any work. Tuberculin treatment August 1st, 1919: 0·01 c.cm. P.T.O. to Jan. 13th, 1920; 1·3 c.cm. Old T. Marked general improvement in health. Able to do own housework. Much less pain. No hæmaturia. Better nights. Frequency, day, 1 to 1½ hours / night, 3 to 4.

Mr. F. C., 30. May, 1919: Constant pain both kidneys and groin for a year; not relieved by removal of two small stones from bladder per urethram six months ago. Now complains constant pain and weakness. Frequency, day, every 3 hours / night, 1 to 2. Cystoscoped; T.B. around R.U.O. No T.B. found in urine. October, 1919: Slight reaction to 0·001 c.cm. Old T. Marked reaction three days later to 0·003 c.cm. Old T. Started treatment Nov. 1st, 1919: P.T.O. 0·0005 c.cm.; now reached 0·7 c.cm. P.T.O. Pain occasional only, and very slight. Frequency, day, 3 or 4 / night, 0. Feels strong and well; able to work.

Mrs. A. W., 33. August, 1919: Tired, sleepless, and worn out. Practically no control over urine, passing every 10 minutes day and night; great pain and smarting; frequent hæmaturia. Five years ago right kidney was removed for tubercle; two sinuses have persisted since, and are now freely discharging. July, 1916: Cystoscopic examination showed ulcerations of bladder wall; T.B. found in urine. Tuberculin treatment from August 1st to end of December, 1919: P.T.O., P.T., and Old T. to 1·3 c.cm. Wonderful improvement, cheerful and energetic and happy; able to do her housework. Frequency, day, every 1 to 1½ hours / night, every 1 to 1½ hours. Pain occasional only. The sinuses are nearly healed. Very little discharge. March, 1920: Improvement maintained.

Mr. W. W., 38, husband of A. W., above. August, 1919: Pain in left renal region five years, increased by work. Frequency, day, every ½ hour / night, 0–1. Hæmaturia—once, copious, 18 months ago. Pain, chiefly after micturition, nearly constant. Cystoscoped; no stone, no growth; ? tuberculous nodules. X ray, left kidney nil. T.B. found in urine. Tuberculin treatment, August, 1919, to February, 1920: P.T.O., P.T., and Old T. to 1 c.cm. "Feels better than he has done for ages." Frequency, day, 3–4 / night, 0. No pain; able to do full work.

Miss E. F., 35. A negative case. History: Five years' weakness of bladder. Micturition every half hour by day, once or twice only by night; no pain; no hæmaturia. Tested with tuberculin up to 0·08 c.cm. Old T. (twice). No reaction whatever to any test. Clearly no tuberculosis.

Unsuitable cases for the treatment are found to be the following: 1. Those in which any continued fever be present; such fever is caused by mixed infection, and the patient should be kept in bed till the temperature is normal. 2. Albuminuria; no injections should be given. 3. Epilepsy; in such cases it is as well to decline treatment. Pregnancy is no bar to the treatment.

A common lesson to be drawn from these cases is as follows.

(1) Early cystoscopic examination along with testing by tuberculin should be practised in every suspicious case.

(2) Treatment of all cases, however long standing.

(3) Treatment can be carried out at dispensaries, a great economic gain to the community, patients usually being able to continue their work.

(4) The attendance of patients twice a week is essential for the proper progression of doses.

I am aware that medical men have tried the use of tuberculin in these and analogous cases, and have discontinued it, disappointed at the results. To my mind, the failure has been due in some of of these cases to the method in which tuberculin has been administered. I adopted the technique laid down by Dr. Camac Wilkinson, from whose teaching one of the first lessons which emerges is that neither patient nor physician should be afraid of reactions. The high temperature with unpleasant symptoms for 24 hours leads to no harm, and, in point of fact, is an invariable prelude to improvement. I must express my thanks for the assistance I have received from Dr. Camac Wilkinson, who placed his lengthy experience of tuberculin treatment at my disposal, and to Mr. Canny Ryall, through whose courtesy I was able to carry out the treatment of some 40 cases at All Saints Hospital.

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AN EXPERIMENT ON THE MODE OF TRANSMISSION OF CERTAIN HUMAN INTESTINAL PROTOZOA.

BY J. C. WATT, *M.C.*, M.B., CH.B. GLASG.,
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THE conclusions of Wenyon and O'Connor as a result of that part of their work in Egypt[1] which dealt with the viability under various conditions of cysts of human intestinal protozoa, and of their mode of transmission from one host to another, appeared to negative my own, particularly on the mode of transmission of amœbic dysentery. For reasons subsequently to be stated my experience in West and East Africa led me to believe that amœbic infection was likely to be wind borne, and to lie in the dust of the countries where the disease is prevalent.

Wenyon and O'Connor, however, apparently showed that cysts of various intestinal protozoa, including that of *Entamœba histolytica*, are killed by drying or insolation; they showed that such cysts are frequently ingested by house-flies, and deposited with the fæces of the latter wherever these may alight and feed; the main conclusion being that the ultimate channels of transmission of amœbic dysentery are moist and wet food and water.

The test used by these observers to ascertain the viability of various cysts after drying was the eosin test. Cysts which stained with dilute eosin were considered to be dead, those refusing the stain to be alive. The reliability of this test seemed to me doubtful. It may be true that "a living cell will not stain with dilute eosin, whereas a dead cell will stain at once"; but does a cyst, which is not merely a cell, but also a cell provided with a resistant, although no doubt permeable outer layer or covering, behave in the same way in this respect as will an unprotected tissue cell? It seems possible that a cyst, having lost fluid or having undergone a change in the fluid tension of its contents, but being still viable, may take up a nocuous diffusible substance, such as eosin, on being immersed in a solution of such a substance. Any such interchange, however, of diffusible substances between the interior of a cyst and its surrounding medium must depend on the permeability of the cyst "wall."

[1] Human Intestinal Protozoa in the Near East, by Temporary Lieutenant-Colonel C. M. Wenyon, B.Sc., M.B., B.S., R.A.M.C., and Temporary Captain F. W. O'Connor, M.R.C.S., L.R.C.P., R.A.M.C.

Now, if it were possible to treat a cyst in such a way as to render its "wall" an impermeable membrane, without damage to its living contents, such a cyst would resist staining. In this connexion one of the findings of Wenyon and O'Connor is significant. They found that exposure of histolytica cysts to various chemical solutions caused them to stain with eosin; but that exposure to 1–100 formalin failed to cause the cysts to stain, "even after four hours ..... though they were very much shrunken and distorted, and gave every appearance of having been killed." It is likely that the resistance to staining in this case was produced by the hardening effect of the formalin on the cyst wall, rendering the latter impermeable, and so precluding the stain from access to the cyst contents.

If this is the true explanation of the phenomenon it seems possible that in conditions resulting in the gradual hardening and drying of such cyst walls—for example, insolation and desiccation—the cyst wall may succeed in preventing damage to the contents of the cyst; in other words, that such cysts may be viable, even although they may present the appearance, from wrinkling of the envelope, of having been killed. This seems the more probable when we consider that the cysts of free-living but closely related creatures remain viable under desiccation. As Wenyon and O'Connor point out, "the Thompsons have shown that the free-living *Amœba limax* produces a cyst which will withstand complete and prolonged desiccation under a tropical sun."

Description of Experiments.

In the experiment I have recently carried out the materials used first were :—

1. Fluid fæces—produced after purgation with mag. sulph.—in which the following organisms were seen :—

(*a*) *Tetramitus* (*Chilomastix*) *mesnili*—numerous.
(*b*) *Trichomonas intestinalis*—not so numerous as the former.
(*c*) A small amœba, sluggishly motile, often extruding several blunt pseudopodia at once, showing a granular endoplasm, the pseudopodia being ectoplasmic, of low refractibility; size equal to, or slightly less than, that of an R.B.C. These I thought might be the *E. nana* of Wenyon and O'Connor, but could not prove this by stained specimens.
(*d*) Cysts, presumed to be of the forms mentioned above, namely: 1. Clear, bottle-shaped, with one or two dark specks, which I diagnosed as *T. mesnili*. 2. Larger, clear, bluntly oval cysts, which I considered might be those of *T. intestinalis*. These mostly exhibited flattening of both sides and ends, and were not unlike lamblia cysts, though smaller and without visible internal structure. 3. Small, spherical, in size about equal to an R.B.C., with coarsely speckled contents, no other internal detail being visible.

2. Stephens's scarlet ink.
3. Rain water.
4. Double strength physiological saline solution.
5. 2 per cent. HCl solution.

The fæcal material was first exposed to the sun for one day, dried in the shade for three succeeding days.

Test A.—Small quantities were then emulsified on slides with rain water, and then, after the lapse of 5, 10, 20, or 30 minutes' interval, were mixed with an equal volume of scarlet ink.

Result.—*Most* cysts of all three types were seen to be stained.

Test B.—Again replacing the rain water by double physiological saline, the same intervals being allowed before mixing with stain.

Result.—Most cysts of all types stained.

Test C.—(1) The same fæcal material (four days old) not having been exposed to the sun, but after drying on a cover-slip for four hours, was then mixed first with (2) double physiological saline, and immediately also with (3) culture of paramœcium, mostly living and moving actively, (4) scarlet ink.

Result.—One typical tetramitus cyst seen entirely unstained, all other material on the slide—including the paramœcia—being deeply stained, except some motile bacteria.

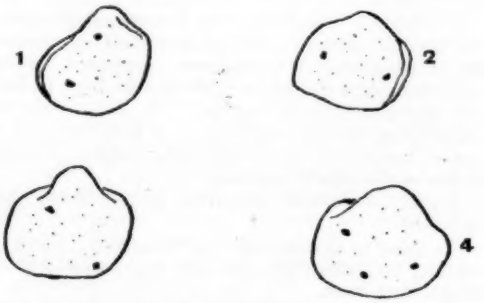
The reason for making these tests was as follows: I considered the staining of dried but possibly still viable cysts might depend either on (1) their loss of fluid, or (2) their relatively high concentration of diffusible substances. Subsequent experiments, on the same lines, with similar materials, gave equivocal results, most of the cysts staining irrespective of what solutions they were treated with before being mixed with the staining solution. That is to say, having once been dried, even short of the point of complete desiccation, they could not be satisfied with an innocuous solution to the exclusion of the nocuous stain.

The same tests were gone through with lamblia cysts, but these all stained readily and completely after short periods of drying.

One result, however, of these tests was that a few cysts of the type described as those of tetramitus, which had been dried for anything between four and ten days, refused to stain, appearing perfectly colourless.

The original specimen of fæces was then placed aside and re-examined between one month and six weeks later, when a scale of dry powder remained in the flask, which had originally contained between 3 and 4 ounces (fl.) of fæcal material. Emulsified and examined under the oil immersion lens numerous cysts were seen on each slide observed. But although those cysts diagnosed as of *T. mesnili* had been fairly easily found in the fresh material, these were now apparently absent, all cysts seen being curiously alike, and spherical or subspherical, except that a few of the larger oval cysts originally present were still to be found. The majority of cysts seen, however, were about equal in size to an R.B.C.; none showed the lobe or knob characteristic of those of tetramitus. Further, all cysts appeared somewhat crenated, and had lost the glassy appearance they had had when fresh.

Some, however, appeared as shown in Figs. 1 and 2. They appeared as if they might have



originally possessed a distinct lobe which had been retracted during desiccation into the main part of the cyst. Indeed, a few gave the appearance shown in Figs. 3 and 4. Later, after immersion in 0·2 per cent. HCl, some of these cysts actually seemed to "fill out," as if resuming the form showing a distinct knob or protuberance.

Test D.—A small quantity of this dried material being now emulsified with sterile water and mixed with an equal volume of scarlet ink was examined under the microscope with surprising results. The large majority of the cysts were entirely unstained. In the repeated examination of many such specimens a cyst was occasionally seen which appeared to be slightly tinged with the stain, but not one was found deeply stained. All the others appeared perfectly clear and colourless against the red or pink background of the slide. After four days vaselined specimens showed the cysts to be still unstained.

Test E.—The same emulsion heated on a slide over a spirit lamp and then stained gave the following result: (1) within half an hour, all cysts slightly tinged; (2) after 24 hours, all cysts stained a deep reddish brown.

Test F.—Some of the fæcal material was emulsified in plain sterile water in small flasks and examined after 24 hours. It was then seen that a large majority of all the cysts had developed into motile amœbulæ, which were, to inspection at least, similar to those I had observed in the fresh fæces; but I concluded that these must be free-living amœbæ, which had either been present in the original fresh stool, or were merely a contamination, having been carried into the fæcal material during the process of drying. I was now doubtful as to the survival of any true tetramitus or trichomonas cysts, but proceeded to a feeding test.

Test G.—A chicken, about 1 month old, apparently healthy, was kept in a cage for five days, its droppings examined while newly passed, both unstained and stained with an equal mixture of 5 per cent. iodine in pot. iod. and Stephens's scarlet ink. No protozoal or other organisms were seen, except bacteria. The chick was then made to swallow, morning and evening, about gr. i.–ii. of the dried fæces originally used—that is, material about two months old. Twenty-four hours after the commencement of the test the chick developed diarrhœa, with mucus in the droppings, but no cellular exudate. The following organisms were then found in the mucus: (*a*) Typical motile trichomonas, numerous. (*b*) Tetramitus, less numerous than the former, moving sluggishly. (*c*) One active amœba, about .6–8 μ in diameter, moving sluggishly, with granular endoplasm, and not very sharply defined ectoplasm; refractility comparatively low. On the second day of infection, besides trichomonas, a few typically motile tetramitus were seen. On the third day of infection the chick still showed diarrhœa in the morning, and the droppings contained large numbers—one or two to each field with a 1/12-inch objective—of tetramitus and trichomonas. Feeding with the fæcal material was stopped, the last dose being given at 6 A.M. on the third day after that on which feeding was commenced. On the evening of the same day, diarrhœa had passed off, and only one or two motionless forms of tetramitus and trichomonas were found. Cysts of the types seen in the original fresh specimen appeared in fair numbers. On the fourth day the chick's droppings were again examined. No protozoa were observed, nor their cysts. The chick was then killed, and the contents of all parts of the intestinal canal examined microscopically. No protozoa were found, but in the material taken from the crop were several of the spherical and subspherical cysts as seen in the dried fæces fed to the chick.

Two other experiments were carried out on chicks. In one, dried fæcal material, which had, when fresh, shown a fair number of tetramitus and trichomonas, with appropriate (?) cysts, was used. This material, after about 18 days' drying, with occasional insolation (Lat. 2°–3° N.), but during very rainy weather, showed all cysts stained when treated with scarlet ink. No protozoal infection was induced in the chick. In the second material, sun-dried, containing *E. histolytica* cysts, failed to infect the chicken, even after 5–6 days' trial. In each case blood and mucus, with a heavy cellular exudate, appeared in the droppings of the chick a few hours after the commencement of feeding with the fæcal material, and the chick in both cases was definitely ill. Immediately, however, on cessation of feeding with the fæcal matter the dysenteric condition cleared up, and the chick entirely recovered.

Conclusions.

Since making these experiments I have had no opportunity of making confirmatory tests; but I feel that, in the case of the first chicken test I have described, there can be little doubt that the chicken was infected by the sun-dried material fed to it, for these reasons: (1) The exact correspondence between the organisms observed in the material fed to the chick and those appearing in the droppings of the chick; (2) the correspondence between the duration of feeding with the test material and the duration of infection; (3) the absence of any intestinal protozoal infection from several other chickens examined, at intervals, over a period of three months, some of these chickens feeding in the hospital compound.

It is possible that the "positive" chicken may have ingested house-flies carrying protozoa or their cysts during the period of the test; but this was not observed and the chick was confined in a cage during the test. No cysts were to be found in the water given to the chick; it was fed with rice. It does not seem possible that the chick could have been so heavily and suddenly infected by the ingestion of, at most, one or two flies.

With regard to the dysentery induced in these chickens I conclude that it was probably entirely due to the irritation of poisonous substances in the fæcal material ingested.

Since making the staining tests described I have noticed that living organisms, such as tetramitus and trichomonas, which entirely refuse to be stained by scarlet ink when they are newly passed in the stool, will, while still showing motion, stain slightly with the same material after having been exposed to room temperature (between 70–80° F. in this case) for a few hours, but without drying other than that due to ordinary evaporation of the fluid fæces containing them. It would appear, therefore, that staining of living organisms—cells—such as these is merely proportionate to the degree of loss of vitality.

I have ventured to make the following suggestions from these tests: (1) That the cysts of *Trichomonas intestinalis* and of *Tetramitus mesnili* may remain viable and capable of reproducing active forms after insolation under a tropical sun. (2) That the staining of certain intestinal protozoal cysts is inversely proportionate to the degree of drying and hardening of the cyst wall. (3) That staining cannot be accepted as a test of the viability of these cysts. (4) That the cyst of *Trichomonas intestinalis* is of a flattened oval shape (flattened as to both sides and ends), slightly larger than the cysts of *T. mesnili*, of clear, faintly spotted appearance when fresh, and exhibiting no internal structure when fresh. I regret I have not been able to use the appropriate stains for these cysts.

It seems likely, therefore, that the infections of *T. intestinalis* and *T. mesnili* may be dust-borne, and I think the experiment I have described is sufficient to warrant a re-examination of the more serious question of the mode of transmission of amœbic dysentery. I have referred to my belief that this disease is dust-borne, and it will be admitted that there are many reasons for supposing this to be the truth. Without going into detail, it is generally remarked that amœbic dysentery is most prevalent in the driest and most dusty countries, and that it is most prevalent in the dry seasons of those countries. Further, I suggest that the onset of rains will cut short prevalent amœbic dysentery. I should like to refer

to two presumptive instances of this. First, in the campaign in German East Africa the onset of the rainy season coincided exactly with a very great reduction in the numbers of cases of dysentery amongst the white troops with whom I was serving; and of all cases amongst these I found a very large proportion to be amœbic.

Again, in Gallipoli, it was remarked that the onset of the rain in August seemed to put a stop to the dysentery that had been so prevalent amongst the troops there, and although it has since been questioned that much of the dysentery during the Gallipoli campaign was amœbic, it is at least admitted that that peninsula must be regarded as an endemic centre of amœbiasis. No one familiar with hot dusty countries—and especially with campaigning in these countries—can forget the welcome freedom from dust accompanying the onset of the rains. My inference is that the almost absolute freedom from dust in the rainy season suggests that dust has been the medium of infection where dysentery also ceases with the onset of the rains. It may be argued that the rains also reduce the numbers of flies, but a few hours' sunshine is generally sufficient to cause these to reappear and infest food materials as before.

Note.—On the question of the duration of infections of *T. intestinalis* and *T. mesnili*, one case I know to have lasted for over two years, including a period of four months in England. Cyst formation seems to be irregularly periodic in occurrence.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

INTENSIVE IODINE TREATMENT.

BY TOM BIRD, M.A., M.R.C.S.
CONSULTING ANÆSTHETIST TO GUY'S HOSPITAL.

Dr. Louis Bourdreau published in 1914[1] his experience, of some 14 years' duration, of the intensive treatment of tuberculosis by large and continuous doses of the tincture of iodine of the French Codex. The article is remarkable for three things: his great success as to results in tuberculosis, the large doses that can be given by a gradual increase, and the proof of sincerity in that Dr. Bourdreau did not publish his results until some 14 years after he began the treatment. His colleagues only had knowledge of his work, and he showed rare restraint in delaying publication for so long. He suggests the "intensive treatment of iodine" might be useful in other diseases. The article came under my notice through a letter of Dr. William Ewart, of St. George's Hospital, who resorted to the treatment for his own arthritis with such success that "from being unable to go upstairs one at a time, he could manage three at a time." He took 10 gr. in the day of pure iodine, through the medium of the French tincture (or Indian tincture), neither of which contain any iodide of potassium.

In quite a number of arthritic cases, and in three or four cases of chronic gout, and in those cases called "rheumatic gout," I have had a quite remarkable success, especially as to pain and insomnia. In 1917 I met an old friend, Dr. J. H. Ewart, of Eastbourne, and no relation of the above-mentioned Dr. Ewart, who told me he used the treatment, and "was continually having prescriptions returned by the chemists, who were surprised at the doses." Although he is himself susceptible to iodine, he told me that he could take ʒi of the French tincture for a dose. He wrote:—

"I tried the treatment, tinct. iodine (French), and began with 10 min., and went on to 30 min. three times a day, and the results were really marvellous; my finger-joints decreased in size in a most wonderful manner. I then went wrong, and began taking 60 min. three times a day, and this ended by giving me a diarrhœa I shall not forget. But to refer to other people. I treated at the All Saints' Convalescent Hospital everybody who complained of chronic rheumatism with tinct. iod. (F.). I don't think the three weeks they were there that I got beyond 30 min. ter die; but the results were really splendid."

With regard to tuberculosis, I have only one case to report. He had been at a sanatorium, and was apparently cured; but in a comparatively short time began to fail, and at last came hæmorrhage. I had already advised him to try iodine as a prophylactic. When the hæmorrhage came he was alarmed and began to take iodine. Some two months after I met him by accident and was surprised at his healthy appearance; he was, he said, quite well and had increased 10 lb. in weight. One swallow does not make a summer, but a swallow is a happy omen when it comes.

Some people are susceptible to iodine, as is my friend Dr. Ewart, of Eastbourne; yet he arrived at ʒi. doses. I generally order 1 gr. after meals three times a day the first week, 2 gr. the second week, 3 gr. the third week. For arthritis I seldom give more. Beyond slight catarrh of the nasal mucous membrane, of the possibility of which I warn patients, I hear of no inconvenience, certainly no iodism. If the treatment has been left off it is better to begin again with small doses, as diarrhœa may follow a large dose. When pain and swelling have been relieved my custom is gradually to discontinue the medicine. It is unfortunate that the article in the *Journal de Médecine* is out of print, and apparently unobtainable, as some of the details recorded are interesting and illuminating.

The notable absence of iodism following the use of the French tincture suggests that it might be used instead of iodide of potassium.

Conduit-street, W.

[1] Journal de Médecine de Bordeaux, January, 1914.

A CASE OF OSTEITIS FIBROSA.

BY NORMAN C. LAKE, M.D. LOND., F.R.C.S. ENG.,
SURGEON, QUEEN'S HOSPITAL FOR CHILDREN, HACKNEY-ROAD, E.;
AND
NORAH H. SCHUSTER, M.B. VICT.,
HOUSE SURGEON, QUEEN'S HOSPITAL FOR CHILDREN.

THE chief point of interest in this case was that, although the X ray photograph so closely resembled that of Mr. E. G. Slesinger's case which appeared in THE LANCET of Nov. 15th, 1919, and very strongly suggested cyst formation, both the operation and subsequent microscopy showed the complete absence of cysts.

The patient, a girl aged 7 years, attended the Queen's Hospital for Children in March, 1916, with a history of a fall three years previously and subsequent limping. There was no shortening of the limb or tenderness, and a bony swelling was felt over the upper end of the femur. The X ray showed a coxa vara with questionable signs of old tuberculous disease or periostitis.

Skiagrams illustrating (1) Mr. Norman Lake's case of Osteitis Fibrosa in a Girl aged 7; and (2) Mr. E. G. Slesinger's case of Osteitis Fibrosa of Upper End of Femur in a Woman aged 25.

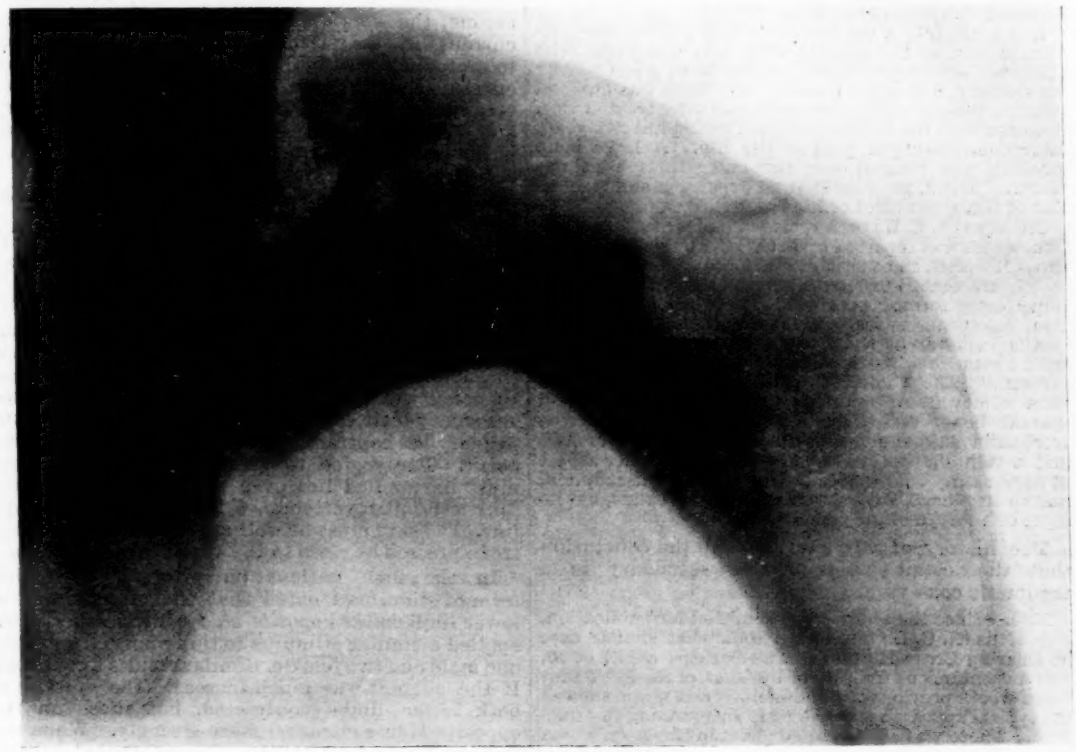


FIG. 1.—Mr. Lake's case.

FIG. 2.—Mr. Slesinger's case (reproduced from THE LANCET, Nov. 15th, 1919, p. 868).

The case appears to have been left until a year later, when the X ray report says "an old greenstick fracture at about the level of the lesser trochanter, with curvature of the upper part of the shaft and some lessened obliquity of her neck."

In August, 1917, a sub-trochanteric osteotomy was performed, and at the operation the bone was noted to be thickened antero-posteriorly, and to be of a soft spongy consistency, not easily broken. The limb was immobilised in plaster for four months, and later treated with massage until the patient returned to hospital two years later complaining of pain in the hip. A large bony swelling was present over the outer surface of the femur. The X ray now showed expansion and rarefaction of the upper third of the femur.

One of us (N. C. L.) then removed a piece for examination, which was reported by Dr. W. C. Topley, of Charing Cross Hospital, to consist of "a loose fibrous matrix in which are embedded irregular islets and trabeculæ of imperfectly formed cartilage. There is no cyst formation, calcification is almost absent, but several of the cartilaginous areas show the other changes connected with commencing ossification. No true bone marrow is present." The whole of the diseased spongy tissue was then removed, first cutting through a thin shell of normal bone, and then curetting along the great trochanter into the neck. The periosteum was left, and a thin shaft of normal bone along the inner aspect of the femur. The wound healed without interruption, and subsequent X rays showed growth of callus, but no signs of a return of the tumour.

The history of this case leads to the conclusion that the osteitis fibrosa was secondary to a traumatic coxa vara.

Note.—Since the above was submitted for publication, one of us (N. C. L.) has had a somewhat similar case at Charing Cross Hospital. The patient, a girl of 19, had a spontaneous fracture of the neck of the left femur three weeks previous to admission. A radiogram showed the typical appearance of the bone surrounding the fracture. There was an indurated gland in the groin which on section, however, proved to be chronically inflammatory. Microscopy of the diseased tissue removed showed it to be of exactly the same structure as the first case. With regard to this case the following points are of interest: absence of mechanical trauma, although there is reason to believe from her previous history of pain that she probably had some infective trauma of mild degree; negative history of syphilis and negative Wassermann; absence of Bence Jones's proteid from the urine, and no cyst formation despite the definite indications of the radiogram.

A NOTE ON THE POSTERIOR NERVE ROOTS OF THE SPINAL CORD:

THEIR STIMULATION IN THE LIVING SUBJECT AND DEMONSTRATION OF DECUSSATION OF THE NERVE FIBRES.

BY E. P. CUMBERBATCH, M.B. OXON., M.R.C.P. LOND.,

MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL, ETC.

WHILST investigating the electrical excitability and conductivity of the nerve trunks of the lower limbs for purpose of diagnosis I have made attempts to stimulate their roots of origin at their exit from the vertebral foramina or in the neural canal. Very strong currents are necessary for this purpose, because the nerve roots lie some distance below the surface. The first attempts were unsuccessful, and no muscle in the lower limbs could be made to contract even when the current had reached the maximum strength which could be tolerated. The faradic and galvanic currents were first used. The galvanic current causes much pain, and the ordinary tetanising faradic current, though less painful, gives a very disagreeable sensation when its strength is much increased. If, however, the primary current is interrupted much less frequently, say once a second, the single shocks caused by the induced current in the secondary coil at break can be tolerated with little or no discomfort. The primary current can then be further increased (or the secondary coil pushed farther over the primary) and a much stronger stimulus can be applied and borne without pain. The coil which I have used for this purpose is the Tripier coil. This is provided with a special see-saw interrupter which can break the primary current any number of times, from 1 to 60 per second. A coil, of English make, known as the "Physio" coil[1] is fitted with a similar interrupter.

If an electrode consisting of a padded metal disc, ¾ inch in diameter, is placed on the skin over the lumbar vertebræ, with an indifferent electrode on the abdomen, and the interrupter regulated so as to break the primary current once a second, the secondary coil can be gradually moved over the primary till contractions of the lower limb muscles occur. The region to which the active electrode must be applied lies over the second, third, and fourth lumbar vertebræ, ½ inch from the middle line. The skin must be well moistened, and the electrode pressed as close to the vertebræ as possible.

In the first patient on whom I tried this form of stimulus I noted that the muscles of the lower limb *on the opposite side* contracted. I then applied a similar stimulus to three normal subjects, one male and two female. Similar results were noted. If the current was much increased the muscles of both lower limbs contracted, but those on the opposite side contracted more strongly. When the current was reduced contraction was noted only on the opposite side. In one of the subjects a particularly strong contraction of the opposite quadriceps was noted, even when that of the same side was quiescent. It was well demonstrated when the subject lay face down with the knees flexed to a right angle. Each time the primary current was interrupted the quadriceps on the opposite side gave a sudden tug, and if the ankle was held by the operator the effort of the muscle to extend the knee was felt, and no pull was felt on the same side. The contraction of the opposite quadriceps occurred when the active electrode was placed anywhere on the region mentioned on the second, third, and fourth vertebræ.

In this experiment the contraction is due, in all probability, to stimulation of the *posterior* nerve roots in the cauda equina. If it were due to stimulation of the *anterior* roots, contraction would have occurred on the same side, or more strongly on the same side than on the opposite, and the groups of muscles contracting would have been smaller as the electrode was placed successively on the second, third, and fourth lumbar vertebræ, thereby stimulating successively smaller numbers of nerve roots.

Another observation made during these experiments was that reversal of the direction of the induced current (obtained by reversing the primary current) was followed by little or no contraction on either side.

These experiments appear to demonstrate the decussation of the afferent (sensory) nerve fibres after entering the cord.

[1] This is made by the Medical Supply Association.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

EARLY MANIFESTATIONS OF SCURVY.

A MEETING of this section was held on Feb. 24th, Dr. A. F. VOELCKER, the President, being in the chair.

Mr. RANSOM PICKARD and Dr. G. W. LLOYD read a paper entitled "Early Manifestations of Scurvy." Two groups of cases were described having the same symptoms, but investigated from a somewhat different standpoint. Another group, bringing the total number of cases to 32, was examined, presenting the same symptoms, but was not referred to in detail. The manner in which the first group was discovered was of interest. In August, 1915, in a divisional rest station in France, there was a large number of cases in which the symptoms complained of were pains in the joints and muscles. In an investigation of these a proportion were found to be anæmic and to have an affection of the gums, either pyorrhœa, bleeding, or loose teeth. It was at first assumed that the pains and anæmia were septic in origin, the cause being the diseased gums. Two patients were then noticed to have each a subcutaneous hæmorrhage. Upon this scurvy was thought to be a possible explanation, and tests were devised to detect night-blindness. By these it was obvious that 9 of the 12 cases in the first group had a moderate degree of night-blindness though none of them had complained or were aware of it. The second group was chosen in a different manner, ten men being picked out who appeared to be the most anæmic. Their hæmoglobin content was then estimated. One suffering from whitlow and another from tertiary syphilis were excluded; neither of these had night-blindness. The remaining eight were then examined as to pain, affections of the gums, and night-blindness; they were found to have some or all of the symptoms. Three cases in the first group had rashes, consisting of a few purpuric spots each around a hair follicle on the front of the thighs and occasionally on the legs. They would fade and one or two fresh spots appear. They were about 2 mm. in diameter. Subcutaneous hæmorrhages consisting of indurations covered by discoloured skin, as in a bruise, occurred on the buttocks, outer part of thighs, and upper arms. In two cases after becoming absorbed they reappeared at the same sites, their position being, no doubt, due to pressure by lying on the ground. Many had the grey necrosis of epithelium of the mucous membrane at the dental edge of the gums characteristic of ulcerative stomatitis, which at about this time appeared in the army. The contention was that anæmia, pains in the joints and muscles, ecchymoses, swollen gums with suppuration, bleeding or loose teeth, and night-blindness formed together the picture of scurvy in its slighter degrees, and were in miniature the same symptoms that exist in the severe cases usually designated "scurvy."

The methods which had been devised for detecting night-blindness were then detailed. A group of controls was taken from among other patients at haphazard, except that they had no pains, gum affections, or anæmia. None of the controls had night-blindness, whilst 16 out of 20 men with the foregoing symptoms were so affected. Charts were constructed to determine whether there was any correlation between the symptoms which could be mathematically expressed, such as percentage of hæmoglobin, the vision by night or candle-light, and the field of vision, or between these and the months of service oversea, but there was no approach to a constant relationship.

Effects of Fresh Food on Scurvy.

In August, 1915, the troops of the division from which the cases were drawn were in the trenches from four to six days at a spell, during which time they had no fresh meat or vegetables. Out of the trenches they had an ample supply of these. Thus they were intermittently short of vitamines, and hence the cases were of slight degree, few in number, and of erratic incidence, only very susceptible individuals being affected. No cases occurred in those above the rank of corporal, presumably because they had a greater variety of food. All but one of the 32 cases occurred in infantry battalions—i.e., in units which had spells of trench duty. In the autumn of 1915 the cases practically ceased, owing, probably, to the fact that the men were able to acquire fruit and vegetables locally. Shortly afterwards fresh meat and vegetables were provided for men in the trenches. In the first half of 1916 a few isolated cases were seen; after that there were none.

The practical bearing of these cases upon civilian work was obvious. Where there was a real lack of food in big cities there was a possibility of finding mild cases of scurvy, and it was claimed that the group of symptoms given would lead to a correct diagnosis. Such cases were particularly likely to occur in women whose work is sedentary and done at home, and whose food is often scanty.

SOME DEFICIENCY DISEASES AND LEPROSY.

Mr. A. STAYT DUTTON read a paper on Some Deficiency Diseases and Leprosy. Having spoken of the connexion between beri-beri and scurvy and deficiency in the diet, he considered leprosy, and referred to Sir Jonathan Hutchinson's investigations. This observer appeared to have been convinced that the food-supply has a considerable effect in its production and noted that it never developed in the United States, with the exception of parts of California, attributing this to the circumstance that it is almost the only country where colonisation took place without an initial stage of considerable hardship, and that a good variety in foods was practically always available. Though leprosy was considered to be due to the *Bacillus lepræ* it was remarkable how closely the nervous symptoms of beri-beri resembled those of lepra anæsthetica. The numbness, anæsthesia, loss of power in the legs, arms, and hands, as well as other symptoms, were very similar, and might in both diseases result in muscular atrophy with foot-drop and wrist-drop. Each was also particularly prevalent in the Far East. Lepra anæsthetica could occur without association with lepra tuberculosa, and be present for a considerable time before the latter eventually made its appearance, and Hutchinson had said that the tuberculous variety never occurred before the anæsthetic kind was in evidence. This appeared to support the food theory. The speaker did not suggest that leprosy was caused by the taking in of bacilli in fish, but there seemed to be the likelihood that when the food-supply mainly consisted of it a deficiency in diet occurred. Salting modified the flavour of the fish, and, according to Liebig, one-third of the nutritive value of meat was lost during the process, and some such change might reasonably be expected in the case of fish. Hutchinson showed that in Iceland and Norway, where leprosy is common, it prevailed more generally on the sea-coast or near lakes and rivers where fish is consumed. It was likely that leprosy might eventually be recognised as partly a deficiency disease, sometimes owing to a predisposition caused by a diet mainly composed of fish, and sometimes to a dietary deficient in various necessary elements. The theory of contagion was not generally accepted, though the case of Father Damien appeared to favour it.

Having considered the possible means of infection by the *Bacillus lepræ*, he said that the discovery of this bacillus had at first led Hutchinson to believe that the ætiology required no further investigation, but later he became aware that this was not the case. It now seemed possible to arrive at conclusions more likely to be accepted—namely, that leprosy is largely predisposed to by defective feeding and by defective personal hygiene, sanitation, housing, and environment, the bacilli then gaining access to the body, with the possible subsequent addition of the whole chain of tuberculous manifestations. The question of prevention seemed to resolve itself into the need of conforming to customs and habits found efficient in England and elsewhere, particularly in regard to food and hygiene, with, in addition, the isolation of those infected with the bacillus.

SECTION OF OTOLOGY.

A MEETING of this section of the Royal Society of Medicine was held on Feb. 20th, Dr. ALBERT A. GRAY (Glasgow) occupying the chair.

Cupping of Auditory Meatus.

Mr. RICHARD LAKE showed a patient who presented Congenital Cupping of the External Auditory Meatus, with Keratosis. The depression occupied most of the external two-thirds of the meatus, with the exception of the orifice. The patient's mother also had been under Mr. Lake's care for the results of a similar condition. The meatus was first dilated by a tube and then ether was instilled. There had been marked improvement.

Purulent Meningitis.

Mr. J. F. O'MALLEY and Dr. P. WATSON-WILLIAMS showed cases of Purulent Meningitis, in which recovery ensued. Mr. O'Malley's patient collapsed in the street, but the practitioner did not regard the condition as serious and prescribed "ear drops." At the end of the second week pain commenced in the left ear, with attacks of vomiting, followed by deafness. Mr. O'Malley found a large perforation in the right tympanic membrane and some pus in the middle-ear cavity. In the left ear there was profuse suppuration from the middle ear, with total loss of membrane and much granulation tissue posteriorly in the tympanum. There was intense headache, and the neck was held rigid on account of pain caused by attempted flexion. Kernig's sign was absent, and his temperature was 103° F. Lumbar puncture was done, 25 c.cm. of slightly opalescent fluid being drawn off; it was not under great pressure. There were 45 per cent. of polymorphs, 55 per cent. mononuclears, Gram-positive diplococci and Gram-negative bacilli, with marked polar staining. A mastoid operation was carried out and definite sepsis found. A second lumbar puncture was done and there was marked improvement. The recovery was slow but uninterrupted.

Dr. WATSON-WILLIAMS'S case was that of a man, aged 37, who had had running from the left ear since boyhood. At times there was much pain in the ear. He had vertigo, falling to the left, objects viewed appearing to swing to the left; spontaneous nystagmus to the right. There was pain at the back of the neck, with retraction of the head. Lumbar puncture was done and 40 c.cm. of the fluid removed. It was under increased pressure, and the patient's temperature was 100° F. A radical mastoid operation and labyrinthectomy were carried out. The external semicircular canal was opened up, also the ampulla and cochlea. Ten days after the operation the patient again had headache and head retraction. Cerebro-spinal fluid was again removed, and it was very turbid and under pressure. Collosol argentum, 1 c.cm., was intrathecally injected. There were 16,800 leucocytes per c.cm., 90 per cent. polymorphs, diplococci, and *Streptococcus brevis*. Further lumbar punctures and collosal injections were carried out, and gradual convalescence followed. He now walks without experiencing vertigo. There is facial paresis, but no reaction of degeneration.—Mr. E. D. DAVIS, Mr. G. W. DAWSON, Dr. DAN MCKENZIE, Mr. SOMERVILLE HASTINGS, Mr. ARTHUR CHEATLE, Mr. W. STUART-LOW, Mr. G. J. JENKINS, Mr. SYDNEY SCOTT, and Dr. GRAY discussed the cases, and Mr. O'MALLEY and Mr. E. WATSON-WILLIAMS (who exhibited the case for his father) both replied. The latter said cocci were found in the fluid before the operation; and it was difficult to think the labyrinth was infected after the operation, and by the eighth day the wound had granulated and had been dressed with silver-soaked gauze.

Menière's Syndrome.

Mr. L. COLLEDGE showed a man, aged 42, who, five years ago, suffered for 12 months from repeated attacks of giddiness. He recovered from these after an operation on the nose. For two months he had now had repeated attacks of vertigo, in which he fell forwards; he also had deafness and tinnitus of the left ear. The tinnitus was temporarily relieved by catheterisation, but not the deafness. Wassermann reaction was positive, and much improvement had followed inunctions with mercury.

Mr. STUART-LOW recommended ½ g. doses of quinine three times a day for the tinnitus, and the stoppage of tea and tobacco. They should rest in bed for a time.

Dr. W. H. KELSON related a case of his own, five years ago, in which giddiness prevented the man following his occupation. Removal of the wall of the external semicircular canal produced such an improvement that the man could resume his work. He was well two years ago.

Dr. GRAY agreed as to the help derived by the patient resting in bed. He had not found drugs of much use, except iodide of potassium, and even that, if given in sufficient quantity to stop the vertigo, caused so much depression as to make the life of the patient a misery. Deprivation of tea and tobacco he agreed with; any poison was bad for the condition.

Malignant Ear Disease.

Mr. SYDNEY SCOTT showed three Malignant Ear cases, and discussed his operative procedure in each.

Dr. DAN MCKENZIE showed a case of Cyst of the Tympanic Membrane.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

AT a meeting of this section of the Royal Society of Medicine held on Feb. 27th, Mr. J. P. LOCKHART-MUMMERY, the President, being in the chair, the subject of the Influence of the Accessory Food Factors in Infant Feeding was ably introduced by Dr. E. MELLANBY. Professor D. NOEL PATON followed with a well-considered plea for the investigation of rickets from the clinical and experimental side, and the discussion, which will later be dealt with at length, was continued by Dr. ROBERT HUTCHISON, Dr. C. J. MARTIN, Dr. E. A. BARTON, Dr. ERIC PRITCHARD, and others.

MEDICAL SOCIETY OF LONDON.

SURGICAL TREATMENT OF THE LATER STAGES OF GUNSHOT INJURIES OF THE CHEST AND OF EMPYEMA.

A MEETING of this society was held on Feb. 23rd, Mr. V. WARREN LOW, the President, being in the chair, when Sir CHARTERS J. SYMONDS read a paper with the above title. He said that as the result of war injuries there remained a number of open pleural cavities requiring surgical treatment; these had followed either the drainage of a septic hæmothorax or an open wound. The same was true of some of the empyemas which had not infrequently occurred after the pneumonia complicating influenza. He gave an account of the results of some recent attempts to close these old suppurating pleural cavities. The main object of the investigation was to inquire how far the lung could be released by removal of the adventitious layer covering it—i.e., by decortication. The number of patients submitted to operation was 19, and 24 operations had been performed, counting only those made after the primary drainage. In 14 one operation was sufficient to secure practical recovery; 2 required a further operation for removal of the second rib; 1 had three operations, all comparatively small. The remaining 2 were still under treatment; one had had two operations and the other one; both promised recovery. Of the 19, 1 had had four operations and another six before coming under treatment. Of the cases dealt with, 7 had been the result of ordinary empyema, 1 was a sterile hæmothorax, 6 were examples of septic hæmothorax operated upon soon after the wound, and the remaining 5 had open wounds of the chest. The operations consisted of resection of the ribs in some to obtain access only, in others to bring about collapse of the chest wall as well; of decortication of the lung and removal of the thickened pleura from the thoracic wall; lastly, of the transplantation of flaps of muscle into the cavity. In most of the operations an attempt was made to detach the adventitious layer covering in and binding

down the lung; in others the pleura was simply scored. Access was obtained by removal of the fourth and fifth ribs from the front. The thickened pleura was removed from the thoracic wall in those cases where muscle flaps were used. In most of the cases, while the thoracotomy served to bring about closure by the falling in of the thoracic wall, he considered that some expansion did take place when the lung was found to be airless, and that when it had receded, as measured by the probe, some expansion took place later on.

Conditions met with at Operation.

At the operation four conditions were met with. 1. The adventitious layer stripped off easily, exposing an unbroken and glistening pleura; the lung filled the cavity and recovery was rapid. 2. The adventitious layer could be removed and the lung freed, but expansion was not immediately permanent; in this form the air vesicles were torn and air escaped in many places; expansion varied in extent and did not reach his expectations, though, on the whole, the procedure was full of promise. 3. Detachment of the layer was possible, but not without including some of the pleura; there resulted a dark red, spongy, airless lung tissue which rose sponge-like into the cavity and gave promise of some permanence, but so far as could be judged no part became aerated and useful. 4. This type was found in most of the cases of old gunshot wounds and in the empyemata long under drainage; the adventitious layer was part and parcel of the visceral pleura, and the two could not be separated; the lung was dark, firm, airless, and smooth on section, when torn no air escaped, and there was little bleeding; the adventitious layer was thinner, as though it had undergone organisation.

In estimating the size of the cavity the best information was gained by a long curved probe or metal sound. With this the most complete exploration could be made, the swing of the antero-posterior curve giving the lateral dimensions. The end thrust against the chest wall could be appreciated by the hand outside. The X ray screen came next in value both with and without bismuth. In addition to exhibiting the cavity, evidence could be obtained as to the condition of the lung and the movements of the diaphragm—the latter a most important point in prognosis. Auscultation and percussion completely failed to demonstrate the dimensions of the pleural space.

Methods of Using Bismuth.

Two methods of using bismuth were employed, first by filling the cavity, and second by introducing a rubber tube containing bismuth. In the first Dr. R. Heath, of Weymouth, directs that the patient should be placed so that the orifice is uppermost and the bismuth (30 per cent. in paroleine) injected through a rubber tube which reaches the deepest part of the cavity. The tube should be small so that the air can escape. The second, a convenient method, was to fill a thin-walled rubber tube 2 to 3 feet long with bismuth or barium, tie both ends and introduce it into the cavity; in this way a fairly accurate outline of the cavity could be demonstrated. Neither method, however, gave the lateral extent of the cavity unless a stereoscopic picture were made.

The Operations Described.

Having ascertained the position and dimensions of the cavity the fourth and fifth ribs were removed from the front. In recent cases the ribs above and below were retracted, which gave sufficient room to decorticate the whole lung. It was necessary to remove the thickened pleura at the same time. If a little more room was required division of the rib above added materially to the space. When the ribs were approximated, as was found in most of the cases, two ribs would require removal. The adventitious layer could, in a recent case, be broken through with the fingers in front and behind and the lung set free. Then the lung itself was exposed, the adventitious layer coming away and leaving a normal pleura. In older cases the facility with which the adventitious layer could be removed varied greatly. In the fourth variety it could not be detached, and then the pulmonary pleura could be curetted or divided into squares or cut in vertical lines. In addition to removal of ribs to permit collapse of the chest wall, flaps of muscle had been introduced, a procedure especially advisable when the apex was affected, for it was important to leave the first rib, and dangerous to remove it. The cases related showed that by muscle transplantation the apex had been closed. When muscle transplantation was done the thick parietal pleura had been removed except at the apex. In completing the operation the anterior wound had been closed, and a drain left in the old sinus in all the cases with extensive cavity. In some, where the cavity had existed chiefly in the upper part with a small tract leading to the opening the drain had been introduced where the cavity was largest. An important question arose as to whether, after the lung had been freed and filled the pleural cavity it would have been wiser to excise the old drainage opening and close the cavity. In small cavities resulting from open wounds the thick hard pulmonary boundary was scar tissue and not a layer of adventitious material, and should not be disturbed.

Risks from Shock and Septic Infection.

The two risks in these operations were shock and septic infection of the recently divided structures. Since the use of bismuth injections had been resorted to before operation the danger of infection had practically disappeared. In only one of the 24 operations was there any anxiety. The temperature seldom reached 101° F. The men arrived, as a rule, with septic pus and small openings. When necessary the opening was enlarged without removal of bone, and the cavity irrigated with saline and peroxide, and then filled with 30 per cent. bismuth in paroleine daily for three to seven days. At the operation all exposed surfaces were rubbed over with this preparation. Shock had never been of sufficient importance to demand treatment, nor had hæmorrhage given cause for anxiety. The anæsthetic employed had been warm ether.

After-treatment.

After-treatment was a matter of prime importance. Captain H. K. V. Soltau, who carried this out, had varied the reagents. He used the Carrel-Dakin method when the cavity became septic or the discharge abundant, after a time substituting permanganate in some cases. Chloramine-T paste was also used, but, on the whole, proved troublesome, and was difficult to remove when suppuration continued. Peroxide was the customary reagent for irrigation; when a bronchial fistula existed oxygen was employed. Another feature of his practice was early exercise, the patient being allowed up as soon as possible, sent out when the weather was suitable, and encouraged to walk about and do work in the wards. Finally, several wounds were closed by excising the sinus and suturing the muscle and skin. An important feature in the after-treatment was the use of elastic in the bandage in the form of an elastic lace, which obviated restriction of chest expansion and limitation of breathing.

Empyema.

Speaking of empyemata, he said that it would be agreed that the chief cause of delay and failure to recover after empyema operations was faulty drainage. There seemed to be an impression in the minds of a good many that a large tube kept up discharge and prevented closure. He then narrated instances where recovery had been delayed by too early removal of the tube or employment of one too small. Prolongation of septic infection, as shown by continued pyrexia or the abundance of pus, and recurrent pyrexia associated with increase of suppuration were very important causes of delay. He was convinced that these drawbacks could be prevented and removed by irrigation of the pleura at the operation and removal of the fibrinous material. He did not think that there was any danger in irrigation when carried out in the recumbent position. He advocated early operation when an empyema failed to heal. The time had come to interfere and release the lung when a large cavity was demonstrable by a sound or by bismuth at the end of about four weeks. If periods

of pyrexia had occurred the operation was then all the more necessary.

Discussion.

Mr. H. E. RAWLENCE, who had collaborated with Sir Charters Symonds in the treatment of these cases, said that the method contrasted very favourably with the older type of operation. When using bismuth the carbonate or the salicylate were easier to introduce than the subnitrate. Anæsthesia had been by oxygen bubbled through warm ether, employing one of the special forms of apparatus used, and preceded by morphia and atropine. Patients seriously ill had expressed themselves as relieved directly after the operation. There had been a remarkable freedom from secondary hæmorrhage.

Sir CHARLES BALLANCE advocated the removal of the hæmothorax early in cases in which this occurred in connexion with gunshot wounds, for if left a foul empyema resulted. Before the war he had been disappointed in the treatment of chronic empyema by the operations of Estlander and Schede. From the point of view of obtaining expansion of the lung and recovery of the patient he favoured the principle of no drainage and reliance on aspiration.

Sir GORDON WATSON said that he had found that in recently wounded men if a hole were left in the chest the mortality was high, and he had endeavoured to get such a hole sewn up even at the advanced dressing station. Of 3000 cases of gunshot wounds of the chest met with during the Paschendaele fighting the mortality was 40 per cent. with an open "sucking" pneumothorax, 40 per cent. from septic pneumothorax which had been drained, and under 30 per cent. when the pneumothorax had been washed out and sewn up. On the Italian front the mortality was much better. Four or five cases of empyema in which he had sponged out the pleura with 1 in 1000 flavine and sewn up the wound completely, and thereafter aspirated daily, did extremely well.

Mr. J. E. H. ROBERTS said that provided that all the solid adventitious material were removed from the chest cases did best if the chest were closed and aspirated. It was a very ordinary occurrence for bacterial infection to disappear when this was done. Possibly the bismuth preparation would save time, and be better than the Carrel-Dakin solution which he had used, but he thought that the solution had a softening effect on fibrous tissue. It was advisable in empyema when the patient's condition permitted to clear out the fibrinous deposit, both on the visceral and parietal pleura. With regard to the anæsthetic the best results were obtained with gas and oxygen, which he combined with a local anæsthetic, believing that it increased the patient's comfort after the recovery of consciousness.

Dr. P. MONTAGUE SMITH read a paper entitled,

THE AFTER-RESULTS OF CERTAIN SURGICAL OPERATIONS.

Speaking of tonsils and adenoids, he detailed the secondary effects produced by their presence. Amongst them he mentioned rheumatism, which, in his opinion, gained an entry through the tonsils. He had observed that epistaxis in childhood appeared to be indicative of rheumatic infection, and others had watched the frequent irregular rises in temperature in children with chorea, and, ascribing this to tonsillar infection, had found that removal of the tonsils benefited the chorea. It was of great importance to remove the tonsils and adenoids before the secondary effects were manifest, and at a time when, by regular inspection of children, it could be ascertained that the throat and nose were *becoming* affected. This operation, intrinsically simple in its character, should be more widely practised and was one that every general practitioner should be able to perform. He saw no advantage in the radical operation of enucleation, since complete removal could be obtained by using the Mackenzie guillotine reversed, and his experience over many years had shown that if a small piece of tonsil were left it did not impair the success of the operation. Tonsils partly removed might, with the growth of the child, assume larger proportions, and, if necessary, be again dealt with. Adenoids undoubtedly might grow again, but seldom to an extent sufficient to require operative treatment, and, if it should appear necessary, a further curettage was a very simple matter. The necessary after-treatment was breathing exercises. The parents should always be instructed as to the great importance of these to institute correct methods of breathing, otherwise the fruits of the operation would be likely to be lost. The after-results were excellent, and, in fact, removal of tonsils and adenoids was one of the most beneficent operations that had ever been devised.

The second preventive operation to which he referred was circumcision. This was commonly inefficiently performed, the frequent fault being that not enough prepuce was removed. For subcutaneous nævus he could not resist the conclusion that the ideal operation, where possible, was excision. The operator should keep wide of the growth, and never endeavour to stop bleeding until it had been removed. In his experience the results of tuberculin in the treatment of tuberculous dactylitis were excellent. For tuberculous glands of the neck he disapproved of set operations and said that treatment on sanatorium lines, dealing with breaking down foci as they occurred, was likely to be successful in the majority of cases. He had found that the treatment of tuberculous peritonitis by opening the abdomen and, if thought advisable, by flushing the peritoneal cavity with saline had been attended, in many cases, with excellent results. After speaking of empyema, hæmorrhoids, and cholecystectomy, he referred to gastro-enterostomy, and regarded it, on the whole, as a remarkably successful operation, though some cases were very disappointing.

Prostatectomy.

His experience with prostatectomy had not been good. From cases in which this had been performed he had learnt several lessons. First, the extreme importance of a most careful and systematic preparation of the patients before operation: (1) by the gradual deflation of the bladder step by step, otherwise there was very considerable risk of hæmorrhage from the release of pressure on the kidney; (2) by the maintenance of the bladder in a practically empty condition for at least a fortnight, if possible, before any operation was undertaken; (3) by a constant endeavour to keep the urine acid by large doses of acid phosphate of soda before operation. Secondly, he had learnt that under any circumstances prostatectomy must be a very grave operation. Thirdly, he understood that bacteriological examination of the urine with these cases *before* catheterisation disclosed a single infection, whichever the organism might be. Fourthly, he learnt that the removal of the prostate did not mean, at any rate invariably, that the patient would be able to empty his bladder correctly. He concluded by saying that he had endeavoured to give a few impressions gathered by one in many years' experience of practice as a general practitioner, and had touched on a variety of subjects on which he might be held by experts in the particular branches alluded to to be erroneous in his views.

SOCIÉTÉ DE THÉRAPEUTIQUE DE PARIS.

AT a recent meeting of this society Dr. L. RÉNON read a paper on the

Therapeutic Action of the Salts of Radium and Mesothorium.

During the last ten years he had employed the sulphate and bromide of radium and the sulphate and bromide of mesothorium in doses ranging from 1 to 300 microgrammes by mouth or in subcutaneous, intravenous, intrapulmonary, intratracheal, intraperitoneal, intraspinal, and intrapleural injections. He had also studied the effect of these salts upon cultures of various micro-organisms and on experimental tuberculosis in the rabbit. His investigations had shown that the treatment was harmless and that it had a definite analgesic effect, and might be advantageously

used in gonococcal arthritis and chronic rheumatism. It might also be employed, in addition to other remedies, in such affections as tuberculosis, in which it sometimes caused an improvement of the general condition with fall of temperature, but without any influence on the subsequent evolution of the lesions.

Treatment of Diarrhœa and Mucous Colitis by Zinc Oxide.

Dr. G. DURAND and Dr. H. DEJUST stated in a communication on this subject that they regarded oxide of zinc as preferable to the astringents usually prescribed in acute diarrhœa, in which it exercised a precipitating action on mucin and serum albumin. It also possessed antispasmodic properties. Successful results were also obtained with the drug in the treatment of mucous colitis. It could be given in combination with small doses of opium, especially if the colic was very severe or the diarrhœa excessive. The daily doses varied with the cases. In acute diarrhœa it was best to begin with 2 g., divided into ten pills of 0·20 g. each. The daily amount should then be reduced by one or two pills daily, according to the rapidity of the results obtained. In chronic diarrhœa, in which the drug would have to be continued for a longer period, smaller doses would have to be employed—e.g., six pills each containing 0·20 g. daily.

Treatment of Oxyurids by Sulphurous Acid.

Dr. G. LEVEN in a paper on this subject described a method which he had successfully used for many years. Every evening for a period of five days the bowel was washed out and a rectal injection of eau d'Enghien, slightly warmed, was given slowly and retained. In the adult half a bottle should be used and in the child a quarter of a bottle. The injections were then omitted for four or five days and then resumed for a second or third time if necessary, as long as there were oxyurides in the stools.

Dr. G. ROSENTHAL described his method of

Intercrico-thyroid Injection with a Curved Needle.

In cases in which it was unnecessary to keep a permanent tube in the trachea he employed a curved needle and cannula, which he introduced into the intercrico-thyroid space. After local anæsthesia with novocain he injected the drug required. The method was specially useful for the injection of adrenalin in hæmoptysis and in asthma.

Employment of Fluoride of Ammonium in Therapeutics.

Dr. BOURGOIS in a paper on this subject stated that for the last 30 years he had made a careful study of the fluorides of sodium and ammonium. He had chiefly employed the ammonium salt owing to its greater solubility, but the two fluorides were of equal therapeutical value. The conditions in which ammonium fluoride was most useful were pulmonary tuberculosis, acute bronchitis, asthma during the first six or 12 months, the early stages of bone and joint tuberculosis, the prodromal stage of meningitis, gastro-intestinal dyspepsia and chronic gastro-enteritis, and whooping-cough. The results were less constant in chronic bronchitis (simple or tuberculous), asthma of long standing, and chronic arthritis and osteitis.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—A meeting of this society was held at 11, Chandos-street, W., on Feb. 17th, Dr. E. E. Flemming, the President, being in the chair.—Dr. Hedda Alstrom read a paper on Mechano-therapeutics, tracing its history from the most ancient times. She showed how, at various periods, it had been held in high esteem, at others it had been looked upon with indifference, until the weight of eminent authority and the pressure of popular opinion had again raised it from oblivion. That this method of healing had not yet taken its proper place as a special branch of medicine, she thought, was due to the fact that art and science had not gone hand in hand, but art was far in advance. Hence many people of all sorts and conditions thought themselves fit to apply it, and in these circumstances it was not possible to get a high and uniform standard of knowledge and practical skill. The work varied accordingly. In many other countries medical men and women, high in their profession, specialised in it, and its theory and practice were taught at the universities. Until the same was done in England we should not get the best out of a good thing. Dr. Alstrom said that she hoped that, in the days when we had learnt that prevention was better than cure, mechano-therapy would be placed on a level with other branches of medicine.—Dr. F. Barrie Lambert then spoke on the need for medical personnel in mechano-therapy. She gave an account of the various kinds of gymnastic training carried out in England, and said that the present-day remedial gymnast was very fully trained and efficient, provided that she held the Incorporated Society of Trained Masseuses' triple qualification of massage, remedial exercises, and medical electricity. The training for the first and second required six months each, and for the third a further three months was necessary. There was also a two years' and, in some cases, a three years' course in educational gymnastics given at the five recognised Swedish training colleges in Great Britain, which included, amongst other subjects, a thorough training in games and æsthetic dancing. The better qualified the gymnasts were the more they asked for medical supervision, but few doctors had sufficient knowledge to supervise. The difficulty of finding medical officers with sufficient knowledge to supervise made the organisation of remedial clinics difficult. Dr. Lambert urged the importance of a short course for all medical students in the theory and practice of massage, remedial gymnastics, and medical electricity, and in the after-care of orthopædic cases.—Dr. A. Kellgren-Cyriax spoke of the need for the extended application of mechano-therapy. She said that Schott's treatment for hearts, Frenkel's coördinated movements for spinal cord diseases, and Cornelius's nerve massage were all adaptations from the Swedish system, and first put on a scientific basis by H. Kellgren. She discovered a method of direct manual nerve stimulation by so-called nerve frictions, and a nerve-soothing treatment by manual vibrations. She said that nerve frictions enabled one to influence every muscle or organ in the body either directly or reflexly, internal organs being stimulated through the rami communicantes of the posterior spinal nerve roots. Nerve vibrations were able to remove pain and inflammation in most cases, and it would be unfortunate if this art were lost to humanity. Dr. Kellgren-Cyriax then showed skiagrams of three surgical cases before and after treatment by mechano-therapy, as well as sphygmographic tracings of mitral incompetence and of mitral stenosis and incompetence before, during, and after treatment by passive and later by active movements. These showed return of the dicrotic wave. She said that mechano-therapy rested on a sound physiological basis, and that there was no danger in prescribing and applying it, if its laws and technique were understood.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society will be held to-day, Friday, March 5th, in the society's rooms, West London Hospital, at 8.30 P.M., when Sir William Hale White will open a discussion on Idiosyncrasy to Drugs.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A quarterly meeting of the association was held at 11, Chandos-street, London, W., on Feb. 24th, Dr. Bedford Pierce presiding, when Dr. R. H. Steen introduced a discussion on chronic hallucinatory psychosis and its differentiation from paranoia.

HARVEIAN SOCIETY.—At the annual meeting and conversazione of the Harveian Society, held at the rooms of the Medical Society of London, the following were elected officers of the society for the ensuing year: Dr. William Hill, President; Dr. C. D. B. Hale and Mr. Kenneth Lees, secretaries. Dr. James Taylor, the retiring President, then delivered an address entitled "Neurological Jottings." The Harveian Oration will be delivered by Sir Thomas Horder, at the rooms of the Medical Society of London, on Friday, March 12th, at 8.30 P.M. His subject will be "The Diagnostic Significance of Nerve Symptoms in Acute Infections."

THE FEDERATION OF MEDICAL AND ALLIED SOCIETIES.—The monthly meeting of the executive council was held on Feb. 25th at 5, Vere-street, Cavendish-square, W. A letter was read in which Mr. Asquith replied to two questions put to him, on behalf of the Federation, at the Paisley by-election, in regard to the National Insurance medical benefit. Mr. Asquith agreed that there was considerable dissatisfaction in regard to the working of the Insurance Act, and pledged himself to support a demand for inquiry.

It was announced that the following societies had accepted representation and had forwarded subscriptions: The British Dental Association, the Royal British Nurses' Association, the Sydenham District Medical Society, and the Association of Medical Officers of Health. Certain individual members of the Federation were also elected. The report of the special subcommittee appointed to draw up the Memorandum and Articles of Association was received and, after amendment, approved for official submission.

Reviews and Notices of Books.

ESSAYS ON THE SURGERY OF THE TEMPORAL BONE.

By Sir CHARLES A. BALLANCE, K.C.M.G. London: Macmillan and Co., Ltd. Two vols., pp. 612. £5 5s.

THESE volumes are a lordly monument to the surgery of the temporal bone. The subject is dealt with comprehensively, and a valuable display of plates affords in some directions historical interest, and in others offers a possible substitute for study in the museum and post-mortem room—indeed, many of these, especially the more diagrammatic, should be of high educational value. The text, however, is the thing. It is erudite, full of ripe experience and excellent description; we have here a book which the specialist may consult, always to find something suggestive or informatory, while a great range of knowledge is opened to the more general student. The author traverses the whole history of the surgery of the temporal bone, from ancient hints of knowledge to modern practice, and includes in his scope the intracranial complications of middle-ear suppuration in very full treatment. In connexion with these there are useful excursions into the allied portions of neurology, and much excellent naked-eye pathology.

The book has been in preparation for a good many years, and, to some extent, suffers in consequence, as do all encyclopædic works, from the fact that the earlier chapters need some additions before the last is finished; and it goes without saying that points arise in a book of this magnitude on which differences of opinion exist. But the statement is always fair, and indeed possibly our only quarrel with the author would be on the ground that his modesty conceals the notable share which he has borne in the development of the surgery of the temporal bone.

With the author's plea in the preface for the better recognition of the importance of aural surgery in our teaching hospitals we most heartily agree. The status of the aural department has, it is true, improved as the result of much hard fighting on the part of the aural surgeons, but the equipment of beds is still in many of our great London hospitals pitifully inadequate, and the student is generally conspicuous by his absence. Yet there is no department of surgery which is going to be of greater value to the practitioner when he is thrown on his own resources, and none which offers better training in logical diagnostic methods and keen observation. And on the side of public service it is hardly possible to imagine a more beneficial use of endowment than the provision of additional beds for aural patients.

DISEASES OF WOMEN.

By THOMAS G. STEVENS, M.D., B.S. Lond., F.R.C.S. Eng., M.R.C.P. Lond., Obstetric Surgeon, St. Mary's Hospital, Paddington, &c. New edition, thoroughly revised and entirely reset. London: University of London Press, Ltd. 1919. With 202 illustrations. Pp. 443. 20s.

IN reviewing the first edition of this work we pointed out that in it gynæcology had been presented on a pathological basis, and that Dr. Stevens's reputation as a pathologist gave value to his views on the subject. The book has proved of the greatest assistance to students, and they, at any rate, have appreciated thoroughly the arrangement adopted by the author. In this new edition there has been a considerable amount of revision, and many parts have been entirely rewritten. The section on syphilis has been revised by Mr. Alfred Allport and contains a good account of the modern method of treatment. Six injections of 914 at weekly intervals are recommended, followed, when possible, by 18 months' treatment by mercury, preferably in the form of intramuscular injections of grey oil into the buttock. If the intramuscular injections are well tolerated they are to be given in courses of eight weekly injections. Such courses should be separated by one month's treatment with potassium iodide or collosol iodine and then one month's rest. A Wassermann test should then be done and mercury recommenced, even if the Wassermann test is negative. We notice that under the causes of pure menorrhagia the author includes chronic bronchitis or emphysema: surely such a cause is very uncommon.

As might be anticipated, Dr. Stevens's views on the subject of erosion are sound, and he shows very clearly that this condition is always the result of some chronic infection, and that the term adenoma applied to it by some authors gives quite an erroneous view of its etiology and pathology. Considering the difficulty most students experience in understanding how a Hodge pessary acts it is a pity the author has not elaborated his account a little more, especially in view of the misleading conceptions of its action to be found in many text-books on gynæcology. We would suggest that the diagrams illustrating the process of tubal abortion would be improved if it were made quite clear that at first the ovum is really imbedded in the wall of the tube. The index might with advantage be a little fuller, and we notice no entry under Ureter.

The book is a very good one, and may be recommended to the student as well written, not too prolix, and full of the best kind of teaching.

ATLAS OF OPERATIVE GYNÆCOLOGY.

By BARTON COOKE HIRST, M.D., Professor of Obstetrics, University of Pennsylvania. London and Philadelphia: J. B. Lippincott Company. 1919. With 164 plates and 64 figures. Pp. 292. 30s.

THE author has attempted the graphic method of describing operations for conditions peculiar to women by a series of coloured illustrations showing the separate steps of each operative procedure. The views expressed and the operative technique advocated are based on many years' experience. The author is opposed to the practice of smearing tincture of iodine on the skin of the abdomen, and then immediately incising it, as, indeed, are most surgeons, and the majority of those who use iodine in this country precede its use by a careful cleansing of the skin before the operation with some other antiseptic. The practice, followed by Professor Hirst, of covering the edges of the wound with a rubber dam, which is sewn to the peritoneum, is a very good one, and excludes with certainty the chances of infecting the edges of the wound, or of the gloves becoming infected by contact with the skin of the patient. The necessity for many secondary repairs of the pelvic floor could, Professor Hirst thinks, be overcome by the more frequent practice of what he terms intermediate operations performed some five days or so after delivery, and done then as completely as may be necessary. For dealing with a cystocele the interposition operation of Watkins is advised. Most gynæcologists in this country would regard this as rather a severe measure.

In the operative treatment of retroversion of the uterus the author, through a Pfannenstiel incision, both shortens the round ligaments in the inguinal canals and also, after opening the abdomen and inspecting the pelvic organs, suspends the uterus to the peritoneum with a single strand of No. 3 catgut. He states that this procedure has given him very good results. We are surprised to find that the author favours abdominal rather than pelvic drainage in cases where drainage is necessary. In discussing the mortality following Wertheim's operation, it is suggested that the more extended use of gas and oxygen anæsthesia may help to lower the immediate mortality, but nothing is said of the great advantages to be gained from a combination of spinal anæsthesia with the use of a small amount of ether; this method yields extremely good results and greatly expedites the performance of the operation. The various methods of carrying out Cæsarean section are well and fully described, and we are glad to see that the operation of pubiotomy is not recommended; it has, as stated, an interesting history, but the need for the operation has now disappeared.

Professor Hirst has produced a very good and useful atlas. It should prove of great assistance to the young operator, and it forms an interesting summary of the operative methods of a distinguished American obstetrician and gynæcologist.

A MANUAL OF HYGIENE AND SANITATION.

By SENECA EGBERT, A.M., M.D. Seventh edition. Philadelphia and New York: Lea and Febiger. 1919. With 160 engravings and 5 plates. Pp. 554.

THE present is the seventh edition of this work, and, like its predecessors, it contains a clear and concise statement of the fundamental principles of hygiene and sanitation. Perhaps no branch of medicine has advanced more rapidly in recent years than that of public health, and opportunity has therefore been taken by the author, in issuing a new and enlarged edition, to revise the text and bring it thoroughly up to date. Special attention has been devoted to the chapters on sewage disposal, industrial hygiene, and military hygiene. The first of these subjects is developing rapidly in importance in the United States of America on account of the growing realisation of its influence upon the health and comfort of communities, both large and small. The second is likely to come more and more into prominence in view of the extensive expansion of industrial enterprise which may be expected to take place after the war, while the third is of interest to the student of public health because of the important part which it played in the recent world war. There are besides chapters on bacteriology and parasitology; the atmosphere; ventilation and heating; water; food; stimulants and beverages; personal hygiene; school hygiene; disinfection; quarantine; vital statistics; the examination of air, water, and food.

The illustrations are, for the most part, excellent, serving to elucidate the subjects to which consideration is given. The book may be confidently recommended for the use of students and all, indeed, interested in public health.

PYE'S ELEMENTARY BANDAGING AND SURGICAL DRESSING.

With Directions Concerning the Immediate Treatment of Cases of Emergency. By V. ZACHARY COPE, B.A., M.D., M.S. Lond., F.R.C.S. Eng. Fourteenth edition. London: Simpkin, Marshall, and St. John Ambulance Association. Bristol: John Wright and Son. 1919. Pp. 232. 3*s*. 6*d*.

THIS well-known book is a reprint of a portion of Pye's "Surgical Handicraft," the present issue being adapted from the eighth edition of that work by Dr. W. H. Clayton-Greene. Within its scope the book is complete, and forms a useful compendium of information for the beginner, whether medical student or nurse, in the wards of the hospital or in the casualty room.

TRAITEMENT DU DIABÈTE SUCRÉ.

La Cure de Bouchardat. Par F. RATHERY, Professeur Agrégé à la Faculté de Médecine de Paris; Médecin des Hôpitaux. Paris: Librairie Félix Algan. 1920. Pp. 276. 8 fr.

THE knowledge and management of diabetes in France during the last half-century have not made the progress which might be expected in the country of Claude Bernard. With the exception of the treatment by fasting and purgation proposed by Guelpa on empirical grounds, no important contribution to the subject has been added by French physicians in recent years, and, judging by the contents of the volume under review, tradition still holds sway. Dr. Rathery's book is avowedly a résumé of the ideas and methods of A. Bouchardat, based partly on that physician's "De la Glycosurie ou Diabète Sucré," published in 1883, and partly on oral information transmitted by his son to Dr. Rathery, his stepson. Where modern views on the ætiology and pathology of diabetes are mentioned it is in order that credit for their anticipation may be given to Bouchardat, and, as the title indicates, the treatment advocated is the modified Rollo method devised by him; other forms of treatment are not mentioned or are dismissed with brief notice. Bouchardat is rightly classed as one of the most brilliant physicians in the history of diabetes; he revived and transformed Rollo's crude and unscientific methods, invented gluten bread, and introduced the intelligent use of exercise for diabetics, beside making important contributions to the pathology of the disease. But we think that he would have acknowledged that his methods were capable of improvement and likely to be modified in the light of further discovery. Ancestor worship does not make for progress, and the truth of this statement is exemplified by Dr. Rathery's book.

THE PRINCIPLES OF NURSING.

By C. A. BROWN, R.N. Philadelphia and New York: Lea and Febiger. 1919. Pp. 262.

As the author rightly states in her preface to this book, it is essentially elementary, but may prove of substantial value to nurses in their first year of training. In addition to outlining the underlying principles of nursing, the author has successfully conveyed to the student nurse a little of the finesse to be achieved in nursing, and how this can be done under conditions often far from ideal. There are valuable chapters on Anæsthetics and the Post-operative Care of Patients, two subjects the importance of which is often overlooked or minimised in text-books for nurses.

The arrangement of matter might have been improved upon, as terms which are used in describing treatment are often explained many chapters ahead; and sometimes, indeed, these terms are not explained at all. It is to be regretted that the system of cross-indexing has not been employed, for this would have increased considerably the value of the book.

The absence of detail, which is essential to the more advanced student of nursing, makes the book of little value to nurses preparing to enter their final examinations, but it should help considerably to prepare those entering a training school for the responsible duties which lie before them.

HEALTH IN THE HOME.

By A. KNYVETT GORDON, M.B., B.C., B.A. Cantab. London: Jarrolds, Ltd. 1919. Pp. 245. 5*s*.

THE author's aim is to place before non-medical readers a brief account of the meaning of the symptoms of disease, with the object of assisting in its prevention and of enabling the sufferer or his relatives to appreciate in a general way what may be the matter. Like a quarrel, getting well needs two parties, and coöperation between these parties is essential. In this direction Dr. Gordon's book is useful, indicating, as it does, the best way in which to prevent disease, beginning from the care of the young. The first part of the book deals in broad outline with the mechanism of the body, and with the general conception of health and disease; the second discusses various symptoms of disease, pain, cough, vomiting, fainting, and so forth, and touches upon infections, venereal diseases receiving only a passing reference. In the third part, dealing with domestic hygiene, stress is laid upon the care of the young, faulty methods at this stage of life being recognised as the cause of much avoidable sickness and distress in after years. An appendix gives receipts for invalid recovery, and the caloric values of common foods with specimen menus.

THE METALS OF THE RARE EARTHS.

By JAMES FREDERICK SPENCER, D.Sc. London: Longmans, Green, and Co. 1919. Pp. 280. 12*s*. 6*d*.

THE history of the discovery of the rare earths, as described in this volume, makes very interesting reading. Although so far these substances have little significance in medicine they may well gain in this direction in the future. The importance which some of them have assumed in the commercial world is well known. The best example, perhaps, of rare earths coming into wide service was when the gas incandescent mantle was made from the rare earths thoria and ceria, a discovery which saved the gas industry from disaster as a source of illuminating power, in face of the rapid improvements developing in electric methods of lighting. In the chemical world, also, some of the rare earths are taking their place as eminent catalysts, effecting combinations with ease, economy, and rapidity, succeeding processes which before were

tedious. The book gives particulars of these technical applications, and records as well the processes by which the rare earths are separated and the analytical methods for their estimation.

JOURNALS.

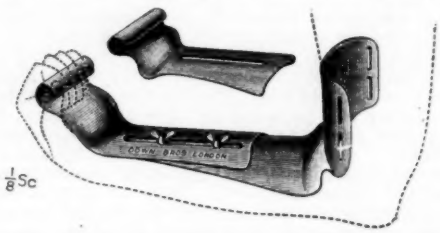
Tubercle. A Monthly Journal Devoted to All Aspects of Tuberculosis. Vol. I., No. 5. February, 1920.—In the February number Dr. Morriston Davies leads off with a Consideration of the Treatment of Pulmonary Tuberculosis by Surgical Intervention, devoted mainly to those procedures which are applicable when artificial pneumothorax has failed owing to adhesions. Resection of ribs and rib cartilages may be employed when general collapse of the lung is aimed at, while two procedures—(1) replacement by a foreign body when collapse of the upper lobe is desired, and (2) section of the phrenic nerve in order to collapse the lower lobe—are also discussed. The latter operation is especially of use when severe cough is due to diaphragmatic adhesions. Another operation—viz., limited artificial pneumothorax by injection of oxygen—is recommended for relief of obstinate pain in cases of dry pleurisy.—Dr. H. A. Ellis follows with an article on dispensary treatment, in which he maintains "that this method of controlling pulmonary tubercle is on the right lines must be admitted when the diminished death-rate from adult male tubercle in Middlesbrough is realised." These deaths numbered 95, 88, 81, 81, and 69 in the years 1914–18 in spite of a large increase of population. Taken alone the figures are impressive, but we find from the report that the total deaths from pulmonary tubercle varied little, owing to a rise in the female deaths, consequent on war conditions. An encouraging report is quoted from Dr. Tennberg, giving the results of ten years' experimental trial of dispensary methods in a certain parish in Finland, and the report is the more valuable because the wholesale examinations of the population at the beginning and end (1909 and 1919) were carried out by the author. There was special concentration on child welfare, and, while the incidence of pulmonary tuberculosis among the general population was reduced more than 50 per cent., the best results were obtained in early life. Among the abstracts is a series on chemotherapy reporting good results from the use of cyanocuprol, and in pneumococcic complications of optochin. Copper sulphate (1 in 1,000,000) has been used effectively for some years in clearing ponds of offensive algæ without harm to fish (so far as reports go), and the results of the therapeutic use of copper will be watched with great interest. A critical review deals further with this agent and the history of its employment. The number closes with valuable reports of lectures and meetings.

Bulletins et Mémoires de la Société Médicale des Hôpitaux de Bucarest. Nos. 1–8.—Whatever may be the physical difficulties of life in the Near East, it is clear that the science of medicine is not neglected. The first number of this bulletin appeared within four months of the signing of the armistice, and since its first appearance one number has been published monthly, excepting during the vacations. Each number contains two or more communications made at the previous session of the society. Papers dealing with typhus and pellagra make interesting reading to those who are not in daily association with these diseases. The last number to reach us contains an article on the Ætiology of Dementia Præcox, in which the author, Dr. A. Popéa, is "strongly inclined" to credit syphilis with being the cause of this disease. His argument depends largely on the results of Wassermann tests which are not sufficiently numerous to be convincing. The argument suffers, too, from the absence of any control experiments on the normal population. Also we are a little surprised to hear dementia præcox described as "bien isolée en clinique." The bulletin is printed throughout in French and several of the advertisers have addresses in Paris, which suggests that the journal is intended for consumption in France as well as in Roumania. Subscriptions, 40 lei, are received by Dr. Alexandresco-Dersca, Bd. de la Catargi 2, Bucarest.

New Inventions.

A NEW SPLINT FOR COLLES'S FRACTURE.

IN the treatment of Colles's fracture, good results are often obtained by flexing the wrist sharply—e.g., over an anterior rectangular splint. This method is specially valuable in cases in which the lower radial fragment shows a tendency to rotate backward. Given perfect reduction, and skilled after-treatment, the full normal range of flexion and extension will always be recovered; and pronation will be unimpaired also, because the hand was put up fully pronated. Supination is not a common movement, and therefore it tends to become limited, unless especial care is taken to cultivate it. The splint here illustrated is expressly



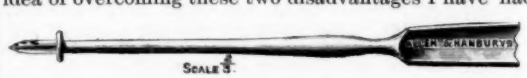
devised to prevent any loss of supination, whilst retaining all the advantages of the older methods. It consists essentially of an anterior flexed-wrist splint, combined with an arm-piece which keeps the forearm fully supinated. It is made of light sheet-metal, and is adjustable for any length of forearm; the wrist is bent to a suitable angle, and a comfortable rolled lower edge is provided for the fingers to grip. It will be found that one or other of the two hand-pieces provided will fit any patient who has a Colles's fracture. It is of the utmost importance that the fracture should be fully reduced before the splint is applied; the latter should be padded with a single layer of Gamgee tissue or thin felt, and fastened on by webbing bands round the arm and forearm and a piece of strapping or bandage round the metacarpal region. The position is not in the least irksome, which is not the case with other supination splints. Generally speaking, the splint should be removed for good in a week's time, and massage should be employed from the very first. With perseverance all movements should be completely restored.

The splint has been made for me by Messrs. Down Bros. ALAN H. TODD, M.S., B.Sc. Lond.,
Portland-place, W. F.R.C.S. Eng.

TONSIL BAYONET

FOR OPENING PERITONSILLAR ABSCESSES.

IN opening peritonsillar abscesses it is usual to employ one of the following instruments: (1) a small scalpel guarded with strapping; (2) unguarded forceps. When employing the scalpel it is difficult to sterilise the strapping; in the case of the unguarded forceps it is easy to go too far in searching for deep pus. With the idea of overcoming these two disadvantages I have had



made for me the instrument here figured and claim for it the following advantages: (1) Ease of sterilisation; (2) the presence of a collar, which prohibits the operator stabbing too deeply; (3) the double-edged bayonet, which facilitates the conversion of the stab into an incision in either an upward or downward direction. The operation can then be completed with blunt forceps quite safely.

Messrs. Allen and Hanburys are the makers of the instrument. A. SCOTT GILLETT, F.R.C.S. Edin.
Connaught-square, W.

THE LANCET.

LONDON: SATURDAY, MARCH 6, 1920.

A Physical Census.[1]

FROM the point of view of national health there has within the last few days been published, as from the Ministry of National Service (1917–1919), a document of the highest importance—namely, a first Report upon the Physical Examination of Men of Military Age by National Service Boards from Nov. 1st, 1917, to Oct. 31st, 1918. If Sir AUCKLAND GEDDES, himself a medical man, had during the war accomplished nothing else than inaugurate the scheme under which this physical census of the people has been taken, the nation as well as the medical profession would owe to him a deep debt of gratitude for a vast public service. Now, for the first time, there is provided for us a mass of material worked out upon a uniform system, which throws clear light upon the physical condition of the manhood of England, Scotland, and Wales, and upon the effects of industrial life and occupation upon the well-being of our people. Those effects are seen to be so pronounced that action must follow.

We deal for the time being only with a consideration of the circumstances leading up to the physical census of 1917–18: the quality of the material presented for examination, the method of examination, and the value that may safely be attributed to the results obtained. Great as was the work performed by the R.A.M.C. during the war from the immediate start, no one will deny that in the matter of the physical examination of the recruit the organisation began imperfectly. There was no adequate attempt to standardise the work of the medical boards; there was not even a published code bringing up to date from time to time the instructions issued regarding acceptance and rejection of the recruits. As the war went on, and the country, gradually awakening to the magnitude of the efforts necessary to avert destruction, evolved and improved its organisation for war, the prime importance of the man-power of the nation received adequate recognition. Month by month, week by week, it became increasingly clear that the demand of the various armies for men must be paramount, although the need for keeping the vital industries of the country adequately supplied with sufficient personnel was as essential to ultimate success as the supply of fighting men. In due course, so urgent became the need, industries hitherto protected were "combed out" in response to the insistent demands of the fighting forces for men. In the past the medical boards had been attempting to perform two functions: (1) to determine whether a man was or was not physically fit to enter the army; (2) to classify the men, whom they considered sufficiently fit, for some form of service in categories from which they could readily be posted to suitable corps and army units. Owing to the absence of clear-cut instructions and lack of training of the medical officers appointed for these duties in standardisation, it will be remembered that the action of the boards had to bear severe criticism. Then, under the Military Service Act of 1917, with the introduction of compulsory military service, the Government withdrew the matter of categorisation from the army and placed it under the control of the Minister of National Service, who forthwith proceeded to organise the physical examination of the men called up, placing the task under the direction of Sir JAMES GALLOWAY and a small but carefully selected committee. The country was divided into regions, and Commissioners were placed in charge of each, with Deputy Commissioners and staff under them. The Deputy Commissioners were brought together and trained so as to take coördinate action and arrive at a common agreement regarding the categorisation of doubtful cases; a clear and admirable code of directions was placed in the hands of every member of the new boards, and all endeavour was made to bring it about that, from one end of Great Britain to the other, the physical examinations were conducted under a single standard.

The new boards began action upon Nov. 1st, 1917. As a result, during the fourth year of the war—the year under review—there came up for examination by the boards (1) a large body of men in protected industries, where in the nature of things an abnormally high proportion of the physically fit were employed; (2) men previously rejected, when the need was less urgent, and now called up for re-examination; (3) men now refused for exemption by tribunals, owing to the urgent demand occasioned by the military situation; (4) a large number of lads who attained the age of 18 during the year; and (5) a relatively small number of men between 41 and 51 who during the year (in April, 1918) became liable for military service under the Military Service (No. 2) Act. The material examined and re-examined during the year under review consisted altogether of close upon two and a half million men, and, as everyone knows, the resulting classification was a shock to any complacency which this country may have felt in its national physique. For while only 10 per cent. were rejected as totally and permanently unfit, not more than 36 per cent. were passed as possessing a full normal standard of health, leaving 54 per cent. to be divided between two classes whose members manifested some or marked physical defects. The reasons underlying the classification are given, as far as they have yet been published, in a document which all should study closely and which will come under further

[1] Report upon the Physical Examination of Men of Military Age by National Service Medical Boards from Nov. 1st, 1917-Oct. 31st, 1918.

review. We note with pleasure this passage closing Sir JAMES GALLOWAY'S official letter, presenting the report of his Committee to Sir AUCKLAND GEDDES—

> Until the end of March, 1919, the Committee acted under your direct instructions as Minister of National Service with Dr. H. W. Kaye, the personal assistant of the Chief Commissioner of Medical Services, as Secretary. When the Medical Department of the Ministry of National Service finished its work the responsibility of carrying on our investigations devolved entirely on our Secretary.
>
> The Committee now desire to express their high appreciation of the enthusiasm and perseverance shown by Dr. Kaye in carrying forward our work to the stage reached in this Report. We desire also to take this opportunity of recognising the valuable work of the Commissioners and Deputy Commissioners of Medical Services and the numerous members of our profession throughout the country; their observations form the basis of the whole Report.

The praise thus meted out has been thoroughly well deserved.

The Reproach of Psychiatry in England.

OF all the branches of medicine psychiatry seems still to suffer from that relative neglect and to labour under those disadvantages which tradition assigns to the lot of the youngest sister. From time to time the calm of apparent stagnation is ruffled by some breeze of public agitation seeking to direct attention to defects, administrative or otherwise, yet such superficial disturbance bears little proportion to the immense undercurrent of dissatisfaction running strongly, within the profession itself, in the minds of all who have the interests of psychiatry in England at heart. If we inquire the reasons of this they are found to reside in a combination of factors on which stress has been laid repeatedly, with as yet little obvious result. It is imperative that the fons et origo of the dissatisfaction, which percolates through all the strata of asylum life, should be clearly laid bare, else the stream will continue to run muddily. It will, we believe, be granted that the scientific health of the asylum unit—that is, of the medical staff—takes its tone from the superintendent; should he be keen on the advancement of psychiatric learning, his subordinates find themselves in a stimulating atmosphere the influence of which is reflected in the actual treatment of the inmates, as well as in the contributions from the staff to the body of psychiatric doctrine. On the other hand, if the senior has been selected more for social than for scientific equipment, or should he allow himself to be more concerned with the asylum laundry or meat-supply than with the healing of the mind, not only is the general scientific level of the institution lowered, but any junior medical officer is only too apt to find his youthful enthusiasm starved in an uncongenial environment; he sinks to the humdrum level of those with whom he is inevitably in such close association. The asylum officer who can rise superior to depressing surroundings is the exception. We should be the last to belittle the importance of social and administrative gifts in the smooth running of the asylum communities of the country, which from their very nature must be self-contained and self-sufficient, but psychiatry exists as a branch of medicine for the prevention and cure of mental disease, and nothing can ever be permitted to usurp this function. No elaborate schemes of internal decoration, no ingenuity of kitchen appliances, no perfectly fitted miniature theatres or admirably supplied gardens, farms, and piggeries, can make up for indifference to clinical and pathological reports, neglect of modern technique in treatment, or absence of stimulus to increase the annual percentage of cures or relief.

The promotion or advancement of a medical officer, further, sometimes seems to depend so little on his professional knowledge that he has scant inducement to devote himself to an earnest study of the subject. His work is too often seen to begin and end with the discharge of routine—essential duties which fatigue without stimulating—and with the accomplishment of which any incentive to personal research vanishes. When he has time to think over things he fully realises the tremendous material at his disposal, the fascination of the study of the complex case, the therapeutic problems with which he is surrounded, yet evening finds him unable or disinclined to sit down to serious work. There is, however, another reason for the paucity of scientific output. Friendly conversation with the average asylum medical officer has often elicited the confession that he does not know how or where to begin his task; he is conscious of not being abreast of knowledge in many instances, and is sorely in lack of a guiding and advising mind. If this position be analysed it will be seen to derive from the fact that so few centres for the organised teaching of psychiatry exist, and the equipment of some leaves much to be desired. Of how many of our asylum officers can it be said that they have attended courses of theoretic and practical psychiatry at home or abroad? When do they get a four or six weeks' leave of absence to follow post-graduate instruction in their life's work at a recognised centre? Nay, how many of them have ever spent an unforgettable Wanderjahr in foreign school or laboratory prior to their entering on their professional career of psychiatric expert? Not that foreign experience of itself confers a cachet unobtainable at home, for our home material, in no way inferior, is calling out for investigation and research; but as long as our young medical officers drift untrained into asylum work, so long will the reproach continue that in this country psychiatry is not adequately studied.

On other occasions we have spoken of the peculiar restrictions and handicaps of certain phases of asylum life for the junior staff; we are more concerned for the present to appeal emphatically for better chances for training, better facilities to keep abreast of scientific advance, greater endeavour to make the first step on the ladder

encouraging, more serious efforts to utilise precious time and valuable stuff. Is it too much to hope that the authorities who control asylum affairs should one day claim a certain standard of professional attainment on the part of medical officers entering the service, and insist similarly on granting members of asylum staffs post-graduate leave? We are confident that the outlook is bright in reality, and that the stirring among what only the cynic would call the dry bones augurs well for the future. We can imagine a central authority fully conversant with the best methods employed in the whole range of the practice of psychiatry and able to give local bodies information and guidance as to management, equipment, and expectation of output on the scientific side no less than on the others; we can foresee the day when prophylaxis and prevention will be elevated to their true importance by the establishment of clinics and observation wards staffed by trained men with all-round experience. The problem confronting us is the elaboration of the best way to organise and utilise the sources of psychiatric energy which, we are convinced, are only waiting to be tapped.

Thyroid and Sex Development.

WIDESPREAD interest appears to have been aroused by recent articles in the daily press, in which somewhat highly coloured descriptions have been given of experiments by Mr. JULIAN HUXLEY and others on the effects of administering thyroid extract to animals. Although the beneficial effects of thyroid extract in cretinism and myxœdema have long been known, there still remains much to be discovered in regard to the functions of the thyroid and other ductless glands, and it is to be hoped that Mr. HUXLEY'S work may assist towards clearing away the obscurity which surrounds them. It cannot be expected, however, that the work of even the most brilliant investigator will immediately unravel the complicated inter-relations which undoubtedly subsist between the various "endocrine" organs, and still less is it likely that the result will provide for mankind an "elixir of life" or prescription for perennial youth. Mr. HUXLEY'S experiments, if we may trust the daily press, confirm and amplify the conclusion reached by previous workers on the subject that the thyroid plays an important part in bringing about the metamorphosis in amphibia, and this is doubtless but a special case of the intensification of metabolic and developmental processes known to be induced by the thyroid hormone. There is also good reason for the belief that the same hormone is concerned with the onset of sexual maturity, and it has even been suggested that, in Amphibia at least, it may play a part in the determination of sex itself. For it has been observed by R. HERTWIG and others that when the fertilisation of frog's eggs is delayed much beyond the normal time, a greatly increased percentage of male tadpoles is produced, and ADLER recorded that these tadpoles had hypertrophied thyroids. It seems unlikely, however, that this conclusion, even if substantiated for Amphibia, can be of general application, for the evidence that sex is determined in very many cases by the presence or absence of a definite "sex-chromosome" is now overwhelmingly strong. It is conceivable, however, that the sex-chromosome may cause the production of a hormone which is the more immediate agent in sex determination, and that in Amphibia, and possibly other animals, its effect may be imitated by the thyroid secretion.

The part of the subject in which our knowledge is most imperfect is that concerning the relations of the thyroid and other endocrine secretions to the hormones produced by the genital glands themselves. Much evidence has been obtained in recent years that the appearance of secondary sexual characters is largely determined by secretions from the ovary or testis, and the work of LILLIE on twin fœtuses in cattle, in which the fœtal membranes and blood systems become confluent, indicates that an originally female embryo can be converted almost into a male by the testicular hormone derived from its twin. But that these sexual characters are not determined by the secretions of the genital glands alone is proved by the existence, in birds at least, of gynandromorphs, which have male characters on one side of the body and female on the other. Nor is it certain that all the effects produced are due to the genital hormones directly, for it has been suggested that these may act in an indirect manner by stimulating the thyroid, the pituitary body, and perhaps other ductless glands to produce greater or less amounts of secretion; thus in respect of some sexual features at least it is these latter substances that may be the effective agents. It seems clear, therefore, that although we have considerable knowledge of the effects caused by insufficiency of any one of these glands, and are therefore able to a large extent to supply the remedy, we are still far from a complete understanding of their combined action or of how their activity is correlated. Some of the articles we have seen in the lay press, dealing with Mr. HUXLEY'S investigations, suggest that knowledge has gone much farther, and to this extent have been misleading.

Rewards for Medical Discovery.

THE deputation from the British Medical Association and the British Science Guild which, along with representative medical Members of Parliament, waited on Mr. BALFOUR on Tuesday afternoon, was sympathetically received by the Lord President of the Privy Council. The deputation suggested the allocation of a sum of £20,000 a year to be divided among medical discoverers who benefit their fellow-men without themselves deriving pecuniary benefit therefrom. Mr. BALFOUR unerringly singled out the chief difficulty in such a scheme—namely, that of deciding equitably on the actual originator of a discovery. Medical science is essentially evolutionary, the departures of the present being alike founded on the knowledge of the past and directed towards the developments of the future. Many will be constrained to agree with Mr. BALFOUR that a better way is to make the life of the investigator less hard, and his work an end in itself. We welcome the encouragement, implied in Mr. BALFOUR'S words, of the endowment of research, though it is easy to see that, even with such endowment, medical discoverers might frequently go unrewarded.

Annotations.

"Ne quid nimis."

ROYAL ARMY MEDICAL CORPS WAR MEMORIAL.

A REPRESENTATIVE Committee has been constituted to put into execution a scheme for erecting a permanent memorial to the officers, non-commissioned officers, and men of the Royal Army Medical Corps who fell in the war. The Committee numbers on its body members of the Regular, the Special, the Reserve, the Territorial, and the Civilian Medical Services, to whom have been added the Presidents of the Royal Corporations and the past and present Director-Generals of the Service. Ireland, Scotland, England, and Wales are all voiced on the Committee, and at a large and authoritative meeting the following decisions have now been agreed to:—

1. That a permanent memorial should be erected in London, with replicas in Edinburgh and Dublin, if funds were available.
2. That the names of officers, non-commissioned officers, and men who had fallen in the war should be inscribed on the memorial.
3. That funds "ear-marked" for the benefit of families should be devoted to that purpose.
4. That it should be open to the public to subscribe such sums as they wish.
5. That subscriptions should be sent to the honorary secretary, R.A.M.C. War Memorial Fund, Captain A. R. Wright, D.S.O., War Office, Cornwall House, Stamford-street, S.E. 1.

We need not point out how heartily we sympathise with this movement, and we are glad, also, to see that public subscriptions will be admitted. We shall be surprised if a war memorial to the Royal Army Medical Corps does not receive support from the public, who have appreciated the splendid share which the Corps took in the war, and who, to some extent, are aware of the professional and private sacrifices made by many thousands of doctors at the call of the country. The decision of the Committee that funds can be ear-marked for the benefit of the families of the fallen is a wise one; it may be that a large proportion of the money received will be designed for this object.

INFLUENZA, HERE AND IN U.S.A.

THE Ministry of Health has communicated to the press a statement as to the position of epidemic influenza at home and in the United States. Influenza is epidemic in many large American cities, and the disease is of the same kind as was observed in 1918–19, except that the proportion of severe or fatal cases in persons attacked is appreciably smaller. The vital statistics of England and Wales exhibits the following features, the Ministry state:—

(1) The weekly totals of deaths attributed to influenza in London and the 96 great towns have, on the whole, tended to increase, but the absolute increments are so small and the necessary uncertainty of classification so great that no unfavourable inferences can be drawn from these fluctuations.

(2) The returns of notified cases of pneumonia have exhibited an appreciable increase, too large to be set down as a mere chance fluctuation. The system of notification, however, has not been in force long enough to allow of comparison with the experience of a normal year; hence an uncertain proportion of the undoubted increase may be due to customary seasonal variations.

(3) There are no indications of epidemic influenza in any of the large factories situated in various parts of the country which furnish special returns to the Ministry. On the other hand, there is proof of the existence of epidemic influenza of an infectious but relatively non-fatal type in certain large schools situated in the south and south-west of England. Measures have been taken to deal with these outbreaks upon the general lines indicated in the previous communiqué.

It is apparent from these circumstances that influenza is epidemic in a few localised English and Welsh communities, and that the type is similar to but less severe than that of 1918–19. While this is a very different situation from that occurring in American cities and in certain parts of Europe, the Ministry is none the less anxious that the public should take heed to the possibilities. The increase of the number of notified cases of pneumonia, and the existence of epidemic influenza in certain schools, make it advisable to direct attention to the importance of attention to the measures already advised to be taken,[1] advice which has been followed widely by public health authorities and the medical profession, when concerting appropriate measures to deal with emergencies.

A NEW MONTHLY JOURNAL OF EXPERIMENTAL PATHOLOGY.

IT is a remarkable fact that such a vigorous branch of medical science as pathology has hitherto been served in this country by only one special journal, which, appearing quarterly, has naturally been unable to publish more than a modicum of the regular flow of articles on pathological subjects. The consequence of this is to be seen in the scattering of such scientific communications through almost every kind of medical publication. Absence of ready reference and delay in the appearance of original work have impeded the natural growth of pathological science, and any attempt to remove such obvious drawbacks to progress is welcome. The *British Journal of Experimental Pathology*, the first number of which has just been issued, is a determined attempt to fill the gap. We are glad to see that the editors construe pathology in its broadest sense; they propose to disseminate knowledge gained by the experimental method, whether in bacteriology or physiology or bio-chemistry, in so far as it may contribute to our understanding of the nature of disease. In this way the journal will undoubtedly meet the needs of research workers, whether in the laboratory or at the bedside. We understand that a happy coöperation with workers in overseas dominions will be kept up in the journal, to which we wish a successful career.

LOCAL OPTION IN INSURANCE PRACTICE.

THERE has been an interesting side-current in the discussion on the new terms of service under the Insurance Acts. In the reports received from a number of areas may be noted a great measure of unanimity between the professional committees on the one side and the insurance committees on the other. In many areas these committees have agreed upon certain modifications in the regulations, especially in regard to the schemes for remuneration and allocation. But the professional representatives, who have been successful in carrying their lay committees with them, are naturally disappointed when they find that the Ministry of Health is unable to accept their modifications because they contravene either the Statutes or the regulations which have been framed under them.

[1] THE LANCET, Jan. 31st, 1920, p. 270.

This is absolutely no reproach to the Ministry, but none the less local negotiations have been felt to be useless. In certain areas, and notably in Sheffield, protest has been made over the loss of time and trouble involved in the refusal of the central department to sanction arrangements agreeable to both the contracting parties on the spot, but the situation was not clearly understood. We believe that it would be well for the medical profession to realise that, for the present at least, agreements between panel and insurance committees can only deal with modifications in detail of the administrative machinery, or, in other words, with the methods of carrying out the settled principles underlying the regulations. It is true that alterations in the regulations themselves have been made upon the suggestion of local medical committees, and secured in the conferences between the Ministry of Health and the Insurance Acts Committee. But local committees are apt to be late in the field, and to forget that their opportunity for altering the regulations in principle lasted only so long as these were in draft, and that the mechanism for doing so was provided by the resolutions passed in the Conference of Local Medical and Panel Committees. We regard the rapprochement between the local medical and lay interests, as evinced at Sheffield and elsewhere, as of happy augury for the smooth and effective working of medical benefit under the Insurance Acts. But these protagonists of the Whitley principle must bear in mind that their brethren in general, both medical and lay, have not been willing to give up the carnal weapon of collective bargaining; and they cannot have it both ways. But their time will come, for the whole future of medicine is bound up with smooth and efficient local working, and the Ministry of Health in taking over the Local Government Board had no quarrel with the local government principle.

THE DANGER OF PISTOLS.

AT a recent inquest in the Paddington coroner's court held upon the body of a demobilised officer, who had shot himself with a revolver in an hotel, the coroner said that he intended to call the attention of the authorities to the case. It showed, as he pointed out, that the deceased, though he had left the army and gone into civil employment, had been in the habit of carrying about with him the Service revolver with which he took his life. He had no gun licence and probably many others also carried pistols without licences in the same way. Everyone will agree with the coroner for Paddington that the carrying of pistols in the streets is a dangerous habit. Attention was called in THE LANCET frequently to the practice for many years before the war. The danger then arose chiefly from the selling to boys and irresponsible persons of cheap pistols, dangerous toys rather than military weapons, and the restrictions of the Pistols Act were designed to check, if possible, this unnecessary traffic. The situation is now different. There must be a great many weapons of a large type, taking service ammunition, in the possession of private individuals who may justly claim that crime is prevalent and that they are necessary for their protection—for example, in a country house or suburban villa. They would naturally point also to such cases as the recent murder of a policeman at Acton, and argue that the undiscovered murderer was able to carry a revolver without detection, and that the honest householder has a right to arm himself adequately even when out of doors as long as dangerous criminals carry weapons. The revolver has figured in a large number of crimes recently, including the holding up of banks and the murder of Mrs. Breaks. It is very desirable to restrict its use, as the coroner at Paddington urged, by strengthening the existing law, but it is a difficult thing to suggest precisely where the law should be strengthened. Severe penalties for carrying revolvers are urged by some, but the difficulty is to detect the persons who carry them before they are arrested for some crime, which in itself would enable them to be severely punished. The formalities attending the sale of revolvers only affect cases where a weapon is bought from a trader; it is impossible to restrict private transfers between individuals. Of course, if the criminal classes could be prevented from carrying firearms, the claim of other citizens to possess them for the defence of their persons and property would have less justification.

THE SELECTIONS FOR FELLOWSHIP OF THE ROYAL SOCIETY.

THE Council of the Royal Society decided recently to recommend for election into the Fellowship of the society the following 15 from the list of candidates:—

Dr. Edward Frankland Armstrong, Sir Jagadis Chunder Bose, Dr. Robert Broom, Professor Edward Provan Cathcart, Mr. Alfred Chaston Chapman, Dr. Arthur Price Chattock, Mr. Arthur William Hill, Dr. Cargill Gilston Knott, Professor Frederick Alexander Lindemann, Dr. Francis Hugh Adam Marshall, Dr. Thomas Ralph Merton, Dr. Robert Cyril Layton Perkins, Professor Henry Crozier Plummer, Professor Robert Robinson, and Professor John William Watson Stephens.

THE ANNUAL CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH.

THE Royal Institute of Public Health will hold the Annual Congress for 1920 in the University of Brussels from Wednesday, May 19th, to Monday, May 24th, 1920, on the invitation of Monsieur Adolphe Max, the Burgomaster of Brussels, and the rectors of the various Belgian universities, Viscount Sandhurst, Lord Chamberlain, presiding. The scientific work of the Congress will be carried on under the following sections:—

(1) State Medicine: President, the Right Hon. the Lord Dawson of Penn; (2) Naval, Military, Tropical, and Colonial: President, Surgeon Rear-Admiral Sir Robert Hill, Medical Director-General of the Royal Navy. (3) Municipal Hygiene: Sir Leslie Mackenzie, Member of the Scottish Board of Health. (4) Industrial Hygiene: President, Professor Sir Thomas Oliver. (5) Hygiene and Women's Work: President, Mrs. Mary Scharlieb. (6a) Bacteriology: President, Professor J. G. Adami, F.R.S., Vice-Chancellor of the University of Liverpool. (6b) Chemistry: President, Professor Benjamin Moore, F.R.S., Member of the Medical Research Committee.

During the Congress the Harben lectures of the institute will be delivered by Professor Maurice Nicolle, M.D., of the Pasteur Institute, Paris. An attractive programme of receptions, with visits to institutions of interest, and excursions to war centres and other places of note in Belgium, has been arranged, and delegates are being appointed by public health authorities. All interested in public health and national welfare questions may

be admitted members of the Congress on application to the secretary. The arrangements for travelling and hotel accommodation are in the hands of Messrs. Thos. Cook and Son, Ludgate Circus, E.C., to whom application should be made.

A CENTRAL INSTITUTE FOR CHILD WELFARE.

A GREAT gift is announced in the sixth annual report of the Carnegie United Kingdom Trust, which has just appeared. The Central Council of Infant and Child Welfare, in which, through the efforts of Sir Arthur Stanley, chairman of the British Red Cross Society, eleven of the principal welfare societies in London are united, has qualified for the grant of £40,000 offered by the Carnegie Trustees for a central institute. Since the offer was originally made to the Council, the Red Cross Society has proposed to erect or purchase a large building to house (*a*) V.A.D. and Red Cross work; (*b*) a tuberculosis centre; (*c*) a college of nursing, besides the central welfare work; and the Carnegie Trustees have agreed to this proposal provided that a distinct wing is used for the child-welfare institute. No building has yet been acquired, but the Central Council has obtained temporary premises in which the work of the central institute is being commenced. Progress has been made in regard to a similar central institute in Edinburgh, but arrangements have not gone as far as in London. The report of the Carnegie Trust states that the policy of giving grants for Church organs is being discontinued, the trustees evidently being mindful of the injunction to them of the late founder: "Let my Trustees therefore ask themselves from time to time, from age to age, how they can best help man in his glorious ascent onward and upward, and to this end devote the fund."

THE UNIFICATION OF MEDICAL SERVICES IN RURAL AREAS.

IN his annual report for 1918 as county medical officer of health for Gloucestershire Dr. J. Middleton Martin summarises the scheme which has been adopted by that county council for the extension of medical services in the more rural districts. The venture has been referred to more than once in the medical press, and in view of its very practical bearing on the development of a unified service of medical treatment no excuse is necessary for re-sketching the outlines of the scheme. Almost every county with a considerable rural population has felt the difficulties and dangers involved in a possible multiplication of clinics, each for an individual purpose. In Gloucestershire the problem was made the more urgent by the quick succession of medical needs which came knocking at the county door for satisfaction—treatment of the tuberculous, of the venereal case, of the school child; the care of ex-Service men, and of mothers, infants, and young children. The county, after negotiations with the governing bodies of general and cottage hospitals and with other interested parties, has evolved a bold scheme for the provision of some 50 out-stations, or out-patient clinics. These will be somewhat on the lines of existing tuberculosis dispensaries, with consulting room, waiting room, and dressing rooms, and will be so distributed that one will be accessible within a radius of about three miles of every patient. At these clinics out-patient treatment will be available for all the special classes of persons for whom provision is now, or will in the future be, made out of the public purse. The usual medical attendants will be the local practitioners, assisted by the specialist staffs of the hospitals, while the specialist staffs of the county council, as regards tuberculosis and venereal disease, will also use the clinics for their particular work. The centres will be available for out-patient treatment under the Insurance Acts, while school cases will receive intermediate treatment by nurses, and ex-Service men by masseurs. The county council will provide and equip the clinics, which will, so far as possible, be in connexion with the cottage hospitals. The scheme will be controlled by a joint committee of the county council and of the general hospitals, and this committee will select the staffs for the various centres.

The growth and practical working of this scheme should be a matter of interest to the whole medical profession, and not least to the responsible officers of counties in which the same problem is becoming constantly more pressing. Those authorities who are slower in taking up the running will do well not to spoil the course for a later start by committing themselves meanwhile to bricks and mortar without very serious thought. The immediate moral appears to be, not to build premises for individual medical services if this can in any way be avoided. If premises cannot be rented, and building is after all found necessary, then it should be considered carefully whether the proposed site and type of building are such as will meet not only the immediate needs of the authority, but also the ultimate requirements of the neighbourhood; and, further, whether the site and the building are likely to commend themselves to the members of the medical profession who, it is to be hoped, will coöperate with the public authority in some such joint scheme as has been evolved in Gloucestershire.

MOTOR FUELS: MEDICAL AND PUBLIC CONSIDERATIONS.

THE report issued by the Board of Trade this week dealing with the costs, prices, and profits at all stages in respect of petrol, benzol, and other motor fuels obviously concerns the medical man. The report has been drawn up by a well-chosen subcommittee, and its conclusions call for very serious attention. At the outset it is shown that motor fuel is rapidly becoming of vital importance to practically every industry, not excluding agriculture, in all civilised countries. Therefore the concentration of control over the price and disposition of motor fuel in the hands of two enormously powerful capitalistic combines, practically world-wide in their scope, is regarded as constituting so dangerous a power, if it happens to be improperly used, that the governments of the world are asked imperatively to give attention to the situation. The demand for motor fuels tends to outstrip the world's present supply, and there is grave danger of a permanent famine in motor spirit, even at fabulous prices. We seem to be very slow in developing the possibilities of other fuels for use in motor service, and we are not surprised to find that the Committee is insistent that work should be begun at once to produce home or Empire fuel. Power alcohol, it concludes, is the only potentially unlimited source of supply, and it is urged that the Government should

use every possible means to foster the production of power alcohol and should place no restriction on that production or the use of power alcohol in this country. Economic questions have also received careful attention, including the control of prices, and the views of the report here are eminently reasonable. The prohibition in regard to export of motor fuels is strongly recommended, and this applies particularly to benzol, and no motor spirit imported into this country should, in the opinion of the Committee, be allowed to be re-exported. The Committee asks that the findings of the report as to prices and export should be put into force forthwith. These conclusions will be received with satisfaction by the whole community, so important a place has motor fuel taken in the affairs of our daily life.

JOINT ILL IN FOALS.

AMONG other interesting matter the *Journal of Comparative Pathology and Therapeutics* for December, 1919, contains an account of experiments conducted at the Research Institute in Animal Pathology, Royal Veterinary College, London, into the cause and serum treatment of joint ill in foals. The investigations were conducted by Sir John McFadyean and Captain J. T. Edwards. The chief organisms found in bacterial and cultural examination of the diseased joints were streptococci, coliform bacilli, *Bacillus nephriditis* (Meyer), an interesting case of streptothrix, and three cases where the organisms were not of any named species. Seventy-two cases were examined during two years of research. The conclusion come to by the investigators is that vaccines and serums are not of any value in the treatment of pregnant mares who are likely to produce affected foals, nor are they preventive or curative of joint ill when applied to the foal itself. 253 cases were treated with the antistreptococcus serum and the authors base their conclusions on these results. Joint ill causes the death in early years of much valuable equine stock, and these investigations should lead to further understanding and research with regard to the disease. At present clean and hygienic stables, proper feeding of the dam, and careful attention to the umbilical cord of the foal at birth seem to be the best preventives. It is somewhat significant that common bred stock kept largely out of doors, or in stables with few animals in, suffer the least from outbreaks of joint ill.

DISABLED NURSES AND THEIR DEPENDANTS.

THE Special Grants Committee of the Ministry of Pensions has framed new regulations under which certain grants and allowances may be made in special cases to war disabled nurses and their dependants. These regulations, which take effect forthwith, apply to members of the Royal Naval Nursing Service and Reserve, Queen Alexandra's Imperial Nursing Service, the Army Nursing Service, the Territorial Force Nursing Service, and any other nursing service or reserve which is admissible under the Royal Warrant. The gist of the regulations is as follows:—

Nurses.—A supplementary or special allowance may be granted to a nurse where, in consequence of serious disablement arising from service during the war, she is unable to maintain herself in her pre-war standard of comfort, but the supplementary or special allowance together with any State pension which may be awarded shall not exceed £90 a year. In exceptional cases grants may be made to nurses to meet temporary distress or emergency. Recoverable advances may be made to nurses pending the receipt of moneys due, or which the Special Grants Committee considers may become due, from the State in respect of pension gratuity or other payment, provided that such advances shall only be made in cases of real necessity.

Dependants.—Where the parent, brother, or sister of a nurse is deprived by her death, in circumstances arising from service during the war, of any regular support which the parent, brother, or sister was receiving from the nurse before or during the war, or might reasonably have expected to receive from the nurse after the war, a supplementary or special allowance may be granted which, with any State pension which may have been awarded, shall not exceed the actual or prospective dependence and shall not exceed the total of £60 a year.

Children.—When a nurse, by reason of disablement arising from service during the war, is unable adequately to maintain her children, or where a nurse dies in consequence of war service, allowances for maintenance and education, not exceeding in amount those which may be paid under the Royal Warrant or the Special Grants Committee's Regulations for the maintenance and education of the children of a disabled or deceased officer, may be granted if the husband or widower of the nurse is deceased or if the Committee is satisfied that he cannot be expected to support the children.

Applications for allowances or grants should be headed "S.G.O." and addressed to the Secretary, Special Grants Committee, Officers' Branch, Millbank House, Westminster, S.W.1.

Sir Archibald Garrod has been appointed Regius Professor of Medicine at the University of Oxford.

THE Home Secretary has appointed Dr. William C. Sullivan, Superintendent of Rampton Criminal Lunatic Asylum, to the office of Superintendent of Broadmoor Asylum, vacant by the retirement of Sir John Baker.

AT Oxford, by a vote in Convocation of 434 to 359 on Tuesday last, Greek ceased to be a compulsory subject.

WE regret to record the death on March 2nd of Dr. Samuel West, consulting physician to St. Bartholomew's Hospital, the Royal Free Hospital, and King Edward VII. Sanatorium. His unremitting services as president of the Royal Medical Benevolent Fund will long be gratefully recalled by the less fortunate members of his profession.

WE note elsewhere the appointment of Dr. James McIntosh, Grocer's Company Research Scholar and Carnegie Fellow in Pathology, to the vacant Chair of Pathology at the Middlesex Hospital Medical School, and of Mr. Sidney Russ, D.Sc., to occupy the new Chair of Physics endowed by Messrs. S. B. and J. B. Joel. Last week the University of London acceded to the institution of a Chair of Radiology at the same school.

THE lectures and practical instruction for a diploma in Psychological Medicine at the Maudsley Hospital, Denmark Hill, having now been arranged, Sir Frederick Mott will be glad to meet medical officers of asylums and practitioners desirous of attending the course, on Wednesday, March 10th, at 2 P.M., at the hospital, in order to settle the days and hours to suit the convenience of the greatest number.

TUBERCULOSIS.

Government Attitude to the After-care of the Tuberculous.

IN a memorandum published in the *Times* of Feb. 2nd and signed, among many others, by Sir Clifford Allbutt and Dr. F. W. Burton-Fanning, it is pointed out that the recommendations of the Departmental Committee's report on tuberculous soldiers have not been acted on by the Government in respect of the third and most important recommendation. It appears that the Government has promised Treasury assistance with regard to the first two recommendations (increased capital grants to sanatoriums and training departments in colonies), but so far it has given no promise of financial assistance for permanent settlements. The Papworth authorities, for example, can get no Treasury help for their village settlement. The signatories of this memorandum urge the Government to promote the permanent village settlement, towards the costs of which the Committee recommended an outlay of a million pounds.

Establishment of a Farm Colony near Edinburgh.

At the annual general meeting of the contributors to the Royal Victoria Hospital Tuberculosis Trust Mr. Charles Cook, the chairman, pointed out that the growing tendency to regard tuberculosis as a problem of infant infection had led the Trust to plan their future operations with special reference (1) to the care and treatment of the manifestations of tuberculosis in whatever organ and at whatever age they occurred, and (2) to investigate and develop accredited lines of treatment of every form of tuberculosis. The application of these principles had resulted in the decision to establish a farm colony on national lines, to be available for the prolonged care and treatment of all forms of curable tuberculosis, precedence to be given to soldiers, sailors, war workers, and their relatives. The Trust's committee had selected Southfield, two miles from Edinburgh, for the purposes of a sanatorium, training colony, and school. The National Association for the Prevention of Tuberculosis had promised £4000 towards the purchase price of £9400, and £300 per annum for three years towards maintenance. With a little rearrangement accommodation could be provided for approximately 40 patients. Speaking at this meeting, Sir Arthur Stanley, chairman of the British Red Cross Society, discussed the larger outlook in the campaign against tuberculosis, and outlined a scheme for creating an international clearing house for ideas and experiences at Geneva, under the auspices of the Red Cross. He hoped that every country would be represented, and the fullest possible information be available as to the tuberculosis work in every part of the world.

A New Sanatorium for North Riding.

The North Riding County Council recently considered a recommendation of the public health committee with regard to the establishment at Morris Grange of a sanatorium with 155 beds. The estimated cost of this scheme was £70,000, exclusive of the water-supply, and the cost to the Riding would probably be about £42,000. The committee's scheme entailed a capital expenditure of £79,640, and an annual expenditure of £32,130. Pending the organisation of this scheme an interim scheme, involving a capital outlay of £1460 and an annual outlay of £5150, should be recommended. The discussion which took place resolved itself largely into a controversy as to the merits of sanatorium treatment in general. It was stated as the opinion of the greatest medical experts that "nothing was worse for consumptives than sanatorium treatment." Also that "the best medical opinion was in favour of sanatorium treatment." The committee's recommendations were adopted.

Tuberculosis in Portsmouth.

Dr. J. Fairley, chief tuberculosis officer and medical adviser to the Portsmouth Insurance Committee, has recently issued a report, dealing with the treatment of tuberculosis under the National Health Insurance Act in the Portsmouth area. In 1914 the total number of patients applying for treatment was 157. Of these only 32·5 per cent. could be traced as living. It was argued from these and other figures that sanatorium benefit was a failure, as judged by ultimate results. Dr. Fairley suggests that the segregation of infectious cases is the only way to control the disease. The Government should provide some half-dozen districts, each of about 20 square miles, where settlements could be established on a large scale. The scheme should first be voluntary, but should ultimately be administered with compulsory powers. Once admitted, a patient would remain till certified free from infection; then he could take his discharge if he wished to, but only on probation, and subject to periodic boarding. Families would be admitted conditionally, and the community would run itself, its local government, its marriage laws, its medical treatment, manufactures, and even trade unions. The community would be productive, though not entirely self-supporting.

Derbyshire's New Sanatorium.

At the quarterly meeting of the Derbyshire County Council the county medical officer of health reported on the proposal to acquire Bretby Hall as a sanatorium. The purchase price of the hall and outbuildings, with about 150 acres of land, and cottages thereon, would be £15,000, and the cost of adaptation £30,000. As £27,000, representing three-fifths of the total, would be paid by the Government, the balance charged to the tuberculosis account would be £18,000, and from this £9000 could be deducted as the Government's share of the outlay. The net capital cost to the county would, therefore, be only £9000.

Birmingham Inquiry into Sanatorium Treatment.

The results of sanatorium treatment in Birmingham are to be inquired into by a special committee, and a report will be presented to the Insurance Committee. It is realised in Birmingham that an important cause of failure in the administration of sanatorium benefit is the lack of provision for the dependents of insured persons undergoing treatment.

"The Harts," a house which stands in 20 acres at Woodford, Essex, has recently been purchased by the East Ham Council, and will be converted into a sanatorium with about 100 beds.

THE BRITISH INDUSTRIES FAIR.

THERE was truly a wealth of British-made goods on the spacious main floor of the Crystal Palace at the British Industries Fair held there from Feb. 23rd to March 5th under the auspices of the Board of Trade. The exhibition presented a most animated scene, and the support which it has received looks well for the future of British energy in many departments of trade and industry. Pottery and glass proved a beautiful demonstration, and impressive also was the display of scientific instruments, optical goods, spectacle ware, and photographic requisites. Many trades were admirably represented by their specimens of output—pianos, cutlery, toys, leather, book-binding, upholstery—all making for British industrial advance. The catalogue presented by the Board of Trade extended to no less than 611 pages. Many leading drug houses and surgical and scientific instrument makers were to the front. The stalls were for the most part artistically arranged. Of course, the primary object of the fair was business, and to bring into light the national power of effective productiveness. The medical visitor, however, must have found considerable interest in the things which concern his calling. We mention a few examples.

Drugs.

Messrs. Allen and Hanburys showed a good selection of their special products of "chrismol" for constipation and colloids, including "azoules," "kapsols," elixirs, and tablets. They made a prominent feature of preparations of internal secretions and other organo-therapeutic products, for example, of thyroid preparations, and especially of "polyglandin" preparations advocated in neurasthenia, melancholia, and sex neuroses, chronic toxæmia, and uterine disorders. Their neodiarsenol outfit for the preparation of injections of 914 (neosalvarsan) was on view.

Messrs. Burroughs, Wellcome, and Co. at their stand made a special feature of large samples of "kharsivan" and "neokharsivan" in addition to various "tabloid" products. Among other substances we may call attention to "iodicin" to replace with certain therapeutic advantages potassium iodide (3 to 9 gr. instead of potassium iodide 5 to 20 gr.). This firm also showed a range of tubes exhibiting the thyroid gland as taken from the sheep, its desiccation, powdering, and tabloid states.

The Standard Tablet Co., of Hove, showed a series of well-prepared medicaments of standard quality, including "thyroxine" tablets. Some prominence was given to the "marvellous" properties of the thyroid gland, owing, no doubt, to the sensational statements made in the press as to this substance proving to be a sort of elixir of life. (The misleading character of the deductions made in certain lay papers is elsewhere referred to.)

Messrs. Evans, Sons, Lescher, and Webb on their stand called special attention to the Liverpool virus for killing rats, and showed two rats as large as fat rabbits, one the bamboo rat of Malacca and the other a Brazilian species. The virus, it is claimed, is harmless to other domestic animals, and the rats must come into the open air to get water and to die. This firm also exhibited Evans's lysol in a prominent position.

Among other houses Messrs. Thomas Christy and Co. and Holt, Thompson, and Co., of Liverpool, had a good show of drugs and fine chemicals. The Western Dental Manufacturing Company had a fine display of dental requisites and appliances; and Messrs. Charles Salmon and Sons made a display of artificial limbs.

Scientific Instruments.

Scientific instruments were shown by Messrs. Baird and Tatlock, James Pitkin and Co., Negretti and Zambra, Newton and Wright, W. Watson and Sons, and Perken, Son, and Co., and Messrs. Raphaels, Ltd., made a special show of the "Maddox" near vision phorometer, invented by Dr. Maddox, of Bournemouth, as a standard test for muscular imbalances of the eye. Duroglass, Ltd. (selling agents, Baird and Tatlock), made a display of all kinds of chemical glassware, which they claimed was in every way equal to the German pre-war manufactures; and Messrs. Standley Belcher and Mason, Ltd., of Birmingham, offered a big show of British-made chemical apparatus respecting which they have issued an illustrated catalogue of 46 pages. They state that all their glassware is now made to conform to the verification tests of the National Physical Laboratory at Teddington. This laboratory was represented at a stall at which examples of standardisation of thermometers and scientific glass-measuring vessels could be inspected.

It seems likely enough that this well-organised and interesting collection of British manufactures will form the first of a series of annual events, for the executive state in the preface to the catalogue that this is known as the British Industries Fair and will *on this occasion* be held in the Crystal Palace. Recent events justify the scheme, and the support given must be gratifying to the authorities concerned, especially if they contemplate regular continuance of their activities.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Insanity and the War.

AT the annual meeting of the Royal Edinburgh Asylum, Morningside, the superintendent, Professor G. M. Robertson, referred to the effects of the war upon mental diseases. At the end of 1919 the total number of patients on the register was 993. During the year the admissions numbered 471. Alcoholic excess was believed to be the main cause of mental breakdown in about one-eighth of the male patients admitted, in spite of restrictions, high prices, and diluted alcohol. Among women the figure was only 1·2 per cent.—the lowest yet obtained. These figures, when compared with the numbers given by Sir Thomas Clouston in 1900 (1 in 3 in men and 14 per cent. in women), showed considerable improvement. The number of parochial patients admitted showed a great diminution. The war had been a cause of widespread anxiety. Although conscious of great relief, many had been surprised that they had experienced no sense of elation. The strain of the war lasted too long for a "rebound" to be enjoyed except by the young. Anxious emotion having accumulated and having lost its natural outlet in the war, now attached itself to anything else available, which then became the subject of over-anxious thoughts. We should be warned, said Professor Robertson, against pessimistic attitudes which had their origin in war. Others who had sustained bereavements during the war found these harder to bear now that the war was over, and many had sought solace in the study of spiritualism. Professor Robertson repeated his previous advice that it is dangerous for persons of neurotic temperament engaging in practical inquiries of a spiritualistic nature, adding that he did not consider Sir Conan Doyle or Sir Oliver Lodge safe judges, in view of their bereavements and unconscious desires. The phenomena in question occurred most frequently when there was disorganisation and dissociation of the mental functions. In toxic states, like delirium tremens, hallucinations of sight were easily aroused, and the patient was very open to suggestion. If, for example, such a patient were given a clean sheet of paper and told it was a letter from a friend he would sometimes start to read it, thus unconsciously providing his own news. Lameness and allied conditions, indigestion, and many other symptoms could result from a mental state, and be removable therefore through the action of the mind. One effect of the war experience was to create universal dissatisfaction with the legal and administrative arrangements for the care and treatment of the mentally afflicted. It emphasised also the need for the better provision of treatment for early cases. During the war thousands of soldiers received treatment for mental disorders without being certified lunatics, and similar facilities should obviously be accorded to civilians. It was believed that opportunity would be given to those who had the care of the insane to make suggestions in the recasting of the Lunacy Laws. The male nurses of the asylum had submitted a demand that female nurses should no longer be allowed to attend male patients, but he was of opinion that the employment of female nurses was beneficial to the male patients under their care.

Contravention of Venereal Diseases Act, 1917.

The trial took place in the High Court of Justiciary, Glasgow, on Feb. 24th, of a person styled "Professor" Eastburn, on a charge of contravening the Venereal Diseases Act, 1917. The "Professor's" fraudulent practice has on two occasions[1] been the subject of comment in your columns, where regret was expressed that no machinery apparently existed for his exposure and punishment. The case is of considerable interest as being the first tried in Scotland under the Act, and also for the light it throws upon the conduct and charges of unqualified practitioners. In the indictment there were 12 counts; objection to these was sustained in six, and the case proceeded upon the remainder. The accused pleaded not guilty. A seaman stated that he consulted him under the impression that he was a qualified medical man, and paid him a fee of £1. Accused undertook to cure him for £22, and for a further £34 to give him an additional course of treatment for nervousness. Another witness stated that he was charged £1 for consultation, and £50 for a course of treatment; this latter sum was paid by instalments, and after payment had been completed the "Professor" offered to give him another course of treatment for £38. In all he paid £88. Another stated that five or six years ago he was treated by Eastburn, and paid him between £40 and £50. Last September he again sought his advice because he was feeling run down. He was given pills "to build up his system," and told the course would last eight months. The medicine was said to be very expensive, and he was to be charged £265; this amount he paid in full. Similar evidence was given by other witnesses. The jury found the prisoner guilty on four of the counts, the verdict in the other two being "Not proven." Sentence of six months' imprisonment was passed, his lordship stating that he entirely agreed with the verdict, and that it was obvious that the accused contravened the Act for profit, well knowing its provisions, and that it was applicable to him.

[1] THE LANCET, 1901, i., 223; 1906, ii., 1413.

Effects of the War on the Incidence of Scabies.

At the annual meeting of the Edinburgh Dispensary for Diseases of the Skin Dr. Robert McLaren submitted some interesting figures showing that at present the incidence of scabies among the civilian population has greatly increased, and that it bears a direct relationship to the recent war. Amongst soldiers in the field diseases of the skin occupied a very important position as a cause of casualty; although not responsible for mortality, they accounted for a very large number of admissions to hospital. Although noted in previous wars, they had never before assumed such importance, which was doubtless due to the unusual conditions of trench warfare, and the enormous number of men constituting a modern army. The majority of the diseases were due to animal parasites, and the figures of the dispensary showed that the number of cases of scabies was exceptionally high, and that the increase bore a distinct relationship to the war period. Of all cases treated at the dispensary between 1911 and 1915 scabies accounted for from 8 to 10 per cent. In 1916 the percentage increased to 15·3; in 1917 to 18; and in 1918 to 31. For the year under review, 1919, the proportion had remained much the same, the actual figure being 30. The increase had therefore been coincident with the war years, and became progressively greater as the new armies entered the field. Without doubt the civil population was now suffering dermatologically from the war, and it was remarkable in how many instances patients could attribute the disease to infection from some soldier member of the family. One of the most important services which the dispensary could render to the community at present was to assist in reducing the number of cases, and in supplying free treatment to those whose circumstances required it.

March 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Winding-up of the Fund for the Assistance of Medical Men.

SINCE the beginning of the war a subscription list has been open among French medical men, and their foreign colleagues on war service in the country, for the establishment of a fund to help doctors and their families who have suffered hardships due to the war. Many doctors evacuated from the invaded regions and taking refuge behind the line have thus been helped, also the dependants of medical men on military duties, and their widows and children. The subscriptions amounted in all to 1,323,000 francs. Large contributions were sent from abroad by doctors who had studied in France, and by medical associations and learned societies in North and South America. The war having ended, the disposal of the accumulated funds has just been placed under consideration. Only 320,000 francs have been used so far; this sum may appear small for five years of war. Benevolent societies in France too often seem to work on the principle of making inadequate doles, and of being more proud of the large sums they have in the bank than of the number of people they have helped. In all, during the last three years the fund spent about 7000 francs a month. A total of 470 people have been helped, among them 120 widows, one of whom had 11 children; 45 of these are now to receive a regular pension; others have been given temporary help. On March 1st, 1919, 350 doctors were on the list, of whom 325 lived in the invaded districts. Since then the names of 50 other doctors have been added, making in all 400. The administrative council propose to divide the remaining million into three parts; 700,000 francs will be devoted to help doctors in the liberated regions, and 100,000 francs have been put in reserve for future applicants because, though the list officially closed on Feb. 28th, requests from late comers are still arriving. The remaining 200,000 francs will serve to continue as long as possible the monthly allowances to widows, orphans, and old and sick people. It is hoped that 7000 francs a month will be available for the next two and a half years. The sums allocated in each case vary with the position of the recipient. A student, son of a doctor, receives only his college fees or his board and lodging; a widow with children receives more. The fund has also bought instruments for doctors of the liberated regions, taking advantage of the sale of surplus goods by the Service de Santé Militaire.

Microbic Clouds and Barometric Variations.

Dr. Roux, director of the Pasteur Institute, presented to the Academy of Science, on behalf of M. Trillat, his latest researches on the influence exercised by a low barometric pressure on clouds of microbes artificially produced in a closed space. While slow attenuation has only a very feeble action, rapid lowering of pressure has the effect of producing an increase of weight and, in consequence, almost instantaneous precipitation of microbic droplets. M. Trillat explains this phenomenon by the rôle of the infinitely small particles which form the nuclei of condensation of the water vapour, under the influence of the rapid lowering of pressure and the instantaneous cooling which results therefrom. According to thermodynamic laws this condensation ought to take place the more easily when the bacteria are very small, such as *B. influenzæ*. When the atmosphere of inhabited places, especially in the neighbourhood of sick people, is in this condition the barometric depression presumably counts among the factors favourable to a high bacterial concentration in the air, and consequently to epidemic infections. To sum up, the variations of barometric pressure, in collecting microbes on the ground or in facilitating their suspension in the air, exerts an influence on the bacterial composition of the air.

Fly Destruction.

MM. Boyer and Guyot, in the *Bulletin of the Academy of Medicine*, have recommended a mixture of castor oil and syrup for this purpose. Flies are killed in a few seconds. The result is even quicker if two drops of croton oil are added to 30 gr. of castor oil.

March 2nd.

URBAN VITAL STATISTICS.

(Week ended Feb. 28th, 1920.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality, which had been 15·9, 17·4, and 16·8 in the three preceding weeks, rose to 17·7 per 1000. In London, with a population slightly exceeding 4,000,000 persons, the annual death-rate was 18·5, or 0·6 per 1000 above that recorded in the previous week, while among the remaining towns the rates ranged from 7·8 in West Bromwich, 8·3 in Gillingham, and 8·9 in Hornsey, to 26·4 in Aberdare, 27·2 in Liverpool, and 28·3 in Barnsley. The principal epidemic diseases caused 446 deaths, which corresponded to an annual rate of 1·4 per 1000, and comprised 184 from measles, 111 from whooping-cough, 72 from diphtheria, 61 from infantile diarrhœa, 11 from scarlet fever, and 7 from enteric fever. Measles caused a death-rate of 1·9 in Wigan, 2·0 in Barrow-in-Furness, 2·2 in Nottingham, 3·1 in Liverpool, and 5·4 in Barnsley; whooping-cough of 1·3 in Leeds, 1·4 in Southampton, and 1·8 in Rochdale; and diphtheria of 2·1 in Merthyr Tydfil. The deaths from influenza, which had increased from 66 to 161 in the four preceding weeks, further rose to 178, and included 38 in London, 25 in Birmingham, 19 in Liverpool, 12 in Leeds, and 6 each in Manchester and Hull. There were 2316 cases of scarlet fever, 2026 of diphtheria, and 4 of small-pox under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 2415, 2000, and 2 respectively at the end of the previous week. The causes of 40 deaths in the 96 towns were uncertified, of which 5 were registered in Birmingham, 4 each in London and Liverpool, and 3 each in Leicester and Sunderland.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at 2,400,000 persons, the annual rate of mortality, which had been 14·7, 14·7, and 14·2 in the three preceding weeks, rose to 15·7 per 1000. The 316 deaths in Glasgow corresponded to an annual rate of 14·8 per 1000, and included 5 each from diphtheria and infantile diarrhœa, 3 from measles, and 2 from whooping-cough. The 93 deaths in Edinburgh were equal to a rate of 14·2 per 1000, and included 3 from diphtheria, 2 from measles, and 1 from scarlet fever.

Irish Towns.—The 174 deaths in Dublin corresponded to an annual rate of 21·9, or 5·4 per 1000 above that recorded in the previous week, and included 3 each from whooping-cough, diphtheria, and infantile diarrhœa, and 1 from measles. The 173 deaths in Belfast were equal to a rate of 21·8 per 1000, and included 4 from scarlet fever, 3 from whooping-cough, 2 from measles, and 1 each from enteric fever, diphtheria, and infantile diarrhœa.

The Services.

ROYAL ARMY MEDICAL CORPS.

Lieut-Col. L. Addams-Williams retires on retired pay.

Major and Bt. Lieut.-Col. R. A. Bryden relinquishes the temporary rank of Lieutenant-Colonel on ceasing to command a Medical Unit.

Major H. C. Sidgwick relinquishes the acting rank of Lieutenant-Colonel.

Major V. G. Johnson is placed temporarily on the half-pay list on account of ill-health.

Temp. Major J. C. Davies (Major, 4th R.W. Fus., T.F.) relinquishes his temporary commission on ceasing to be employed with the Field Ambulances of the 43rd Division.

C. S. Stolterfoth and S. F. Cheesman, late temporary Captains, to be temporary Captain.

Officers relinquishing their commissions:—Temporary Captains granted the rank of Major: H. H. Hepburn, H. H. Dunmere, B. Knowles, J. A. Paterson. Temporary Captains retaining the rank of Captain: C. D. Walker, L. R. Pickett, A. F. Palmer, W. J. Moloney, F. J. Pierce, E. W. Hall, L. J. O'Donovan, S. E. Holder, L. Gameson, M. Dobbs, D. H. Vickery, J. F. Wolfe, T. F. Shackleton, J. L. Smith, W. H. Stott, J. Scott, F. E. McGee, E. G. D. Milsom, G. M. Elliott, J. S. Byrne, E. H. Eastwood, N. Elrington. Temp. Lieut. D. I. McNaughton (retains the rank of Lieutenant).

SPECIAL RESERVE OF OFFICERS.

Captains relinquishing their commissions:—D. C. Macdonald (granted the rank of Major), W. A. Hawes (retains the rank of Captain).

TERRITORIAL FORCE.

1st Southern General Hospital: Lieut.-Col. F. W. Ellis is restored to the establishment.

ROYAL AIR FORCE.

Medical Branch.—Lieut. A. G. Hewer to be Captain.

DEATHS IN THE SERVICES.

Lieut.-Col. John Henry Connel Whipple, Brigade Surgeon, A.M.S., retired, whose death in London on Feb. 20th is announced, was born on Dec. 31st, 1840. Entering St. George's Hospital in 1858, he was a contemporary of the late Mr. Pickering Pick and Dr. George Bernard Brodie. Col. Whipple took the M.R.C.S. Eng. in 1863 and the M.D. St. Andrews in 1862. He entered the Army Medical Service as assistant surgeon, staff, Sept. 30th, 1864; was appointed to the 21st Foot, May 16th, 1865; to the Coldstream Guards, Oct. 14th, 1868. His designation was altered to surgeon under Royal Warrant, March 1st, 1873. He was promoted surgeon-major, Grenadier Guardians, June 21st, 1885, and he retired from the Service with the rank of brigade-surgeon, August 19th, 1885. His designation of surgeon-major was altered to surgeon-lieutenant-colonel, Sept. 30th, 1894, under *London Gazette* notification of Oct. 17th, 1893. He served in Egypt, 1882, being present at Tel-el-Mahuta and Tel-el-Kebir, for which he had the medal with clasp and the Khedive's Star.

SPECIAL NEUROLOGICAL BOARD: PRESENTATION TO DR. W. A. BREND.—At a dinner held in the Great Central Hotel on Feb. 28th, Dr. Muirhead Martin in the chair, Dr. W. A. Brend was the recipient of a presentation consisting of an inscribed album, a silver rose-bowl, and a complete edition of Pepys's Diary, from over 60 past and present members of the Special Neurological Board and Clinic, Lancaster Gate. In making the presentation the chairman expressed the personal regard of the staff for Dr. Brend and their admiration of his work during the term of his presidency of the Board, now brought to a close by his appointment as Neurological D.C.M.S. for the London region. Dr. Brend, in reply, referred to the difficulties overcome before the Board attained its present influential position, and commented on the growing importance of its treatment branch and clinic in the development of psychotherapy. Dr. H. E. Davison, who succeeds to the post of President, was also a guest, and the other speakers were Drs. Charlton Briscoe, P. Bousfield, Danvers-Atkinson, Duncan, David Forsyth, Laing Gordon, and Travers-Smith. Mr. Cortlandt MacMahon with song, and Dr. Bowen with legerdemain, contributed to the programme of the entertainment.

Correspondence.

"Audi alteram partem."

THE MACKENZIE DAVIDSON MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—In surveying the devastation of five years of war, the nation is beginning to realise that some compensation may be found in the great stimulus which science has received. In no branch of science has this been more marked than in the field of radiology. In the diagnosis of disease and in the localisation of foreign bodies and bone injuries, radiology has played a vital part in the war and has given invaluable aid to the thousands of medical officers serving in the Forces. Remarkable as has been the development of radiology during the war, there is need for watchfulness lest full advantage be not taken of this stimulus and a period of reaction set in. There is pressing need of unremitting research. For this is required the provision of the best equipment possible, and also a more thorough and systematic scheme of teaching. The University of Cambridge is alive to these requirements, and a diploma in radiology and electrology at the University has been established. It is felt that the success of the step will be greatly assured if similar facilities are provided in London.

The death of Sir James Mackenzie Davidson in the prime of life has deprived radiology of one of its most distinguished exponents, whose name is specially associated with the development of radiographic technique, and particularly that of stereoscopic radiography, and with the introduction in this country of the method of the localisation of foreign bodies to which so many thousands of wounded men owe a deep debt of gratitude. Mackenzie Davidson's reputation was international. In this country he was rightly regarded as the head of his profession, and throughout his career he was unsparing in his efforts to raise the status of radiology among the sciences. He was especially insistent on the fundamental value of physics to radiology, particularly in regard to methods of measurement and the designing of equipment, subjects in which he was deeply interested up to the time of his death. Many in his own branch of the profession and a number of his friends and former patients, wishing to keep his memory green, have suggested that an appeal for funds should be made to found a Mackenzie Davidson Chair of Radiology at some University. Had Mackenzie Davidson lived he would have been among the first actively and generously to support the foundation of an institute for teaching and research in radiology, of which he was one of the earliest pioneers. If funds permit, it is hoped to found such an institute, to which possibly the chair could be attached, and of which the personnel and equipment would be beyond reproach. The benefit accruing to the British School of Radiology would be incalculable.

Till quite recently radiology has been regarded as a purely medical subject, but experimental research has shown that X rays may be profitably employed commercially in a number of industries. A new subject, radiometallography, has, for example, come into being, which offers great possibilities for examining the internal structure of metals and other materials. In this connexion radiology has already been turned to account by the steel manufacturer, the metallurgist, the engineer, the manufacturer of explosives, the aircraft constructor, the glass manufacturer, &c. The future of radiology will therefore lie, not only in the fight against disease and suffering, but also in the increase of commercial and industrial efficiency. But these new branches of radiology need much investigatory work before they can come fully into their own, and a Chair of Radiology associated with an X ray Institute should play a worthy part in such development.

It is in the belief that the scientific study and teaching of radiology will materially add to the well-

being of the human race that the Committee venture to put forward this appeal for public support. Cheques should be made payable to the London Joint City and Midland Bank, crossed "& Co." and marked "The Mackenzie Davidson Memorial Fund," and sent to Dr. Robert Knox, 38, Harley-street, W. 1.

We are, Sir, yours faithfully,

A. BONAR LAW.	CHRISTOPHER ADDISON.
STANLEY BALDWIN.	HARCOURT.
J. J. THOMSON.	BERTRAND DAWSON.
CLIFFORD ALLBUTT.	W. D. COOLIDGE.
HUMPHRY D. ROLLESTON.	W. WATSON CHEYNE.
ALEXANDER OGSTON.	FREDERICK W. MOTT.
ROBERT HADFIEED.	ANDERSON CRITCHETT.
ROBERT JONES.	ERNEST RUTHERFORD.
J. Y. W. MACALISTER.	CHARLES H. WORDINGHAM.
A. E. BARCLAY.	ARCHIBALD D. REID.
THOMAS J. HORDER.	C. THURSTAN HOLLAND.
N. S. FINZI.	SIDNEY RUSS.
G. HARRISON ORTON.	W. IRONSIDE BRUCE.
LENNOX WAINWRIGHT.	GILBERT SCOTT.
G. W. C. KAYE.	ROBERT KNOX.

BLIND MASSEURS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 21st is an annotation referring to blind masseurs. In the concluding paragraph thereof the opinion is expressed that a blinded masseur is incapable of giving effective remedial exercise and re-education treatment. To this opinion I wish to take very strong exception.

Considerable experience of blinded masseurs, who have also been trained to apply remedial exercises and to re-educate muscles, has convinced me that with careful and adequate preparation there is no reason whatever why a blind masseur or masseuse should not be able to apply any of the remedial exercises described by Kleen, Wide, or any other disciple of Ling (I write as one who was trained in this method of treatment in Stockholm). As a further proof, I may mention the fact that a member of the Association of Certificated Blind Masseurs passed the *full* examination conducted by the Incorporated Society of Trained Masseuses, qualifying for the certificate in "Swedish remedial exercises," and came out *first* in the list, although he was the only blind examinee! I consider that the paragraph referred to is calculated to affect adversely the prospects of a very deserving, enthusiastic, and capable band of workers, worthy of every possible help and fair treatment. I disagree entirely with the statement that "the blind administrator will be tempted to mete out to patients inferior treatment."

I state with conviction that if a blind masseur has been properly trained his treatment will *not* be inferior to that of an administrator gifted with sight.

I am, Sir, yours faithfully,

W. H. BROAD, M.D., Major, R.A.M.C.,
Lately O.I.C., Physical Treatment Department, Alder Hey Military Hospital.

Liverpool, Feb. 25th, 1920.

To the Editor of THE LANCET.

SIR,—Many thanks for your generous reference to the Association of Certificated Blind Masseurs in your issue of Feb. 21st. In regard to the final paragraph our men go through a specially prepared course of remedial exercises, but I quite agree with you that perfection in these is out of the reach of the blind practitioner.

I am, Sir, yours faithfully,

ARTHUR PEARSON,
Chairman, Blinded Soldiers' and Sailors' Care Committee.

Feb. 26th, 1920.

A PROFESSOR OF MILITARY MEDICAL HISTORY FOR OUR INDIAN WARS.

To the Editor of THE LANCET.

SIR,—A letter from Major-General Sir G. J. H. Evatt, A.M.S., in your issue of Jan. 31st, contains the valuable suggestion that a medical history of our Indian wars should be compiled. I am in entire agreement with him in this, as I have from time to time during the last quarter of a century experienced the greatest difficulty in collecting data on the subject. The same suggestion was put forward in my "Prevention of Disease and Inefficiency, with Special Reference to Indian Frontier Warfare," second edition, 1911. The records from which such a history could be compiled are scattered in a host of files in various departments in Simla and in the old files stored in Calcutta. Some useful information on the subject is also to be found in that delightful and charmingly written work, "History of the Indian Medical Service," two volumes, by Lieutenant-Colonel D. G. Crawford, I.M.S. (Thacker, Spink, and Co., Calcutta). For the compilation of such a history I would suggest that a senior major or junior lieutenant-colonel of the I.M.S. with a talent for collecting and arranging historical facts be selected, and placed on special duty for the purpose for six months.

I do not see my way to agreeing with General Evatt's further suggestion that "Military Medical History for our Indian Wars" should be made the subject of a professorship. I greatly doubt if the material available would be sufficiently entensive to justify this. It could, however, be most profitably included in some other professorship such as one dealing with medical organisation and administration in the field.

One earnestly hopes that in the near future a military medical school will be opened in India and that the matter under reference will receive due consideration in connexion with it.

I am, Sir, yours faithfully,

P. HEHIR,
Major-General, I.M.S.

London, March 1st, 1920.

ARTIFICIAL SPIROCHÆTES.

To the Editor of THE LANCET.

SIR,—It may interest those who have been concerned in recent years with the motile "streamers" which exude from red blood corpuscles and pretend they are spirochætes to know of an excellent description of them given by Dr. William Addison in the Transactions of the Microscopical Society of London, Vol. IX., 1861, p. 22, and Plate III. (in the *Quarterly Journal of Microscopical Science*, n.s., Vol. I.). His recipe for their production is to mix equal quantities of blood and a solution containing 1 gr. of common salt and ½ gr. of bicarbonate of soda in two fluid drachms of water added to half a fluid ounce of good sherry wine. Port wine containing a grain of sulphate of quinine in half a fluid ounce was also efficacious; so was a mixture of one part of fresh urine with two or three parts of sherry wine.

I am, Sir, yours faithfully,

A. E. BOYCOTT.

Radlett, Feb. 28th, 1920.

THE NEEDS OF AUSTRIAN MEDICAL FAMILIES.

To the Editor of THE LANCET.

SIR,—May I make an appeal through your columns for the families of physicians in Vienna, especially the lecturers in the University, who are not in private practice and are in dire distress? I have been aiding a number of friends and acquaintances for some time and have received to-day a letter from an eminent university professor, who is well known in England, in which he says: "Whatever you may have heard or read about our condition is far from exaggerated, but rather underestimates the state of our misery. The exchange alone (the English sovereign being formerly 24 crowns and now 950) is an indication of our extreme poverty. We hunger and freeze—for six weeks I have seen no coal—and it is a wonder that I can sometimes summon energy for work. Indeed, there is a danger of falling into a state of complete lethargy. ..... Being father of a family I venture to make use of your kind offer. If you could send us corned beef, flour, fat, and condensed milk, you would do us a great service."

Much is, no doubt, being done in England and elsewhere for the very poor of Vienna; but, Sir, let us not forget our own colleagues, some of them famous and too proud to disclose their misery. THE LANCET has been so often the leader in appeals for charity, and is

so well known in Vienna, that I beg you will again take the initiative in an appeal to British medical men to help their colleagues in Vienna; and no doubt you know better than I do how to convey food in larger quantities over there and how to organise its distribution by some accredited representative.

May I add, since clothes cannot be bought in Vienna (a suit costing 20,000 crowns), that old garments in good condition might be sent as well, and that a present might be made of the more important new books and journals, for, as my correspondent writes: "I cannot buy any books now—English books will perhaps never more be attainable; to buy my own work would cost a fortune now."—I am, Sir, yours faithfully,

BERNARD HOLLANDER.

57, Wimpole-street, W., March 1st, 1920.

*** The distribution may safely be left in the hands of the Friends' Emergency and War Victims' Relief Committee (Hon. Sec., Miss A. Ruth Fry, 27, Chancery-lane, London, W.C. 2), which has a centre in Vienna, and finds itself at this moment seriously handicapped by lack of funds. In face of the present desperate situation this Committee is unable to continue its purchases of much-needed fats, milks, and other foods. Every report that reaches the Relief Committee serves but to confirm the impression that unless Austria, Poland, and Germany are speedily helped they will become victims of disease and famine likely to menace the whole life of Europe.—ED. L.

THE THERAPEUTIC USES OF OXYGEN.

To the Editor of THE LANCET.

SIR,—The discussion at the Royal Society of Medicine on the therapeutic use of oxygen, as reported in your columns of Feb. 7th, encourages me to put on record some observations I have made at different periods. As no exact apparatus was at my disposal, they must be looked upon in the light of clinical notes. First, many years ago my only source of supply was chlorate of potash and dioxide of manganese. This oxygen, of course, contained a trace of chlorine; in fact, its valuable properties were, as far as I was able to observe, largely dependent on that contamination. The effects of inhalation were hypnotic and stimulant. The latter quality was recognised in heart failure and during critical periods of disease, when this oxygen proved superior to alcohol, strychnine, or any of the ordinary stimulants. This "chlorine oxygen" also proved to be a hypnotic of considerable power, valuable in irritable heart with insufficient aeration. It was sufficiently powerful to make the attendant find it difficult to keep awake in such an atmosphere. The character of the sleep thus induced was peculiarly refreshing, similar to that obtained by driving in the open air. But this form of oxygen administration entailed two disadvantages: it leaves the mouth excessively dry and it discolours all the brasswork in the room.

The next time I took up the question with ordinary cylinder oxygen, which I call "dead oxygen," as it appeared to me to possess no other therapeutic value than the replacing the atmospheric and pulmonary deficiency. In the light of the discussion this was an error. Its greatest value in my hands was in certain cases of pneumonia, where the discoloration and dyspnœa were out of proportion to the other symptoms. For the practitioner away from the metropolis the form was convenient for administration during chloroform anæsthesia, conveyed through a tube under the mask.

The third variety of oxygen I experimented with therapeutically was obtained by dropping water on sodox, a form of dioxide of sodium. The result of administering oxygen in this form was a remarkable increase of metabolic action. "Sodium oxygen" is sufficiently active to necessitate careful regulation of the dose, and I found the best period of administration varied from two to 15 minutes. Advantage was derived by those cases in which improved metabolism was required, but in whom there was no deficiency in the elimination of waste products. If elimination was at fault the result was liable to prove injurious, by increasing the strain on excretory organisms already over-taxed. In sanatorium treatment of phthisis it proved of benefit in rendering the muscles more resilient and improving metabolic well-being. Latterly, those returning to work were put on five minutes' inhalation twice daily after meals. In hypersensitive cases and advanced phthisis inhalation proved deleterious, and in a few cases dangerous, producing depression and collapse.

Sodium oxygen is evidently more active than the other forms of oxygen, and will, I believe, be found to be a therapeutic agent of no mean order.

I am, Sir, yours faithfully,

Middlesbrough, Feb. 21st, 1920. HENRY A. ELLIS.

THE LATE COLONEL D. F. KEEGAN, I.M.S.

To the Editor of THE LANCET.

SIR,—The death of Colonel Keegan, reported a few days ago, removes one of the grandest figures in the history of the Indian Medical Service. If you named the three biggest surgeons which the Indian Medical Service has produced you must include the name of Keegan. The work he did will live for generations yet unborn, and he will be more honoured in his urn than he was when alive. This is the fate of all pioneers. Death removes them from the field of jealousy. When he was doing the spadework he had to fight the world, and he did it and established his case. We are all familiar with the work Keegan did in rhinoplasty and how he established the Indian operation as *the* operation for all time.

Keegan was a man with a fine imagination, a powerful and versatile intellect, and a strong character. He was a powerful, clear, and incisive though courteous controversialist. It is only a very able man in any public service who can go his own way and live as an official. Keegan did this. As a man he was one of the most kindhearted, the most generous, and the most genial of men. As a friend he was one of the few capable of that genuine friendship, as distinguished from fair-weather friendship, who would life itself resign at the sacred call of friendship. There was no self-interested trimming of wings for the weather about Keegan.

He did most of his service in Central India, where his fine personality was a political influence of the first magnitude. He died at the age of 80 years. The Government of India did not do themselves the honour of honouring him with a decoration. A man like Keegan does not require a decoration as his passport. He made no pretension to be what in popular language is called an "aristocrat." He belonged to a much higher order. He was an aristocrat of the moral code of the New Testament. He leaves a heritage to his son and his two daughters which "moths and rust do not corrupt, nor thieves break through nor steal."

I am, Sir, yours faithfully,

H. SMITH,

Amritsur, Jan. 31st, 1920. Lieutenant-Colonel, I.M.S.

PARA-SCARLET AND DENGUE FEVERS.

To the Editor of THE LANCET.

SIR,—In connexion with the correspondence in your columns on the question of para-scarlet fever perhaps the following case may be of interest. On Dec. 30th last I was called to see J. D., aged 14 years. She had taken ill the previous evening with headache—temperature 101° F. No vomiting or throat symptoms, but slight injection of the fauces. Headache persisted at intervals, and the temperature rose with morning remissions to 103·6°. The pulse did not exceed 108. On the evening of the second day there was slight evidence of a rash appearing on the back, pharyngitis, and the glands in the posterior triangle of the neck were enlarged. On the morning of the third day the rash had spread widely but never involved the front and upper portion of the chest. The rash was suspiciously like that of scarlet fever but for lack of uniformity, while small selected areas had the appearance of measles. The tongue was coated with a thick fur, but at no time could it be said to resemble the white or red strawberry.

There was marked hyperæmia of the nasal and pharyngeal mucous membranes, and epistaxis was repeated and troublesome. Headache and sleeplessness were the other chief features. The rash disappeared slowly, and on its disappearance fleeting pains in the joints were manifest. There was no albuminuria throughout. For ten days after the temperature had subsided there was a distinct feeling of malaise; then occurred a terminal rise with complete recovery. Four weeks from the date of onset desquamation was taking place on the palms of the hands. The only possible source of infection was a visit to the dentist, and recently it has transpired that he took to bed with a sharp attack of dengue fever immediately after J. D.'s visit.

I am, Sir, yours faithfully,

Khanka, Cairo, Feb. 16th, 1920. R. S. MILLER, M.D.

THE NOMENCLATURE OF TRYPANOSOMES: A CORRECTION.

To the Editor of THE LANCET.

SIR,—In my letter, as published in your issue of Feb. 21st, the word "*Trypocastellanelleæ*" is made to appear a little longer than it actually is; an additional "*an*" has crept into it inadvertently and in the wrong place. I remember that I found the word somewhat difficult to type, and I can only express my regret if I overlooked the mistake in the proof. The word is printed correctly, however, in the paragraph dealing particularly with it.

I will take this opportunity of adding that I hope it was quite clear that my letter was not intended as an argument either in favour of, or against, the actual classificatory changes proposed—whether generic or specific. My only object was to protest against a growing tendency to (as I regard it) travesty scientific nomenclature in connexion with the protozoa. Personally, I would much prefer to continue to call such well-known parasites as *Trypanosoma lewisi* and *T. gambiense* by these names than to have to think of them as *Lewisonella lewisi* and *Castellanella castellanii* respectively. It may be noted that Professor Minchin, although he recognised that *Babesia* was most probably the correct name, preferred to use *Piroplasma*, and in his book he put the latter name first in his account of this genus (p. 379). If *Babesia* has to stand, the result is, that of all the types into which this important group has been subdivided there is only the doubtful "*Anaplasma*" whose generic name gives us any idea of what kind of creature is concerned! Is not this an absurdity to be avoided in the future?

I am, Sir, yours faithfully,

Feb. 26th, 1920. H. M. WOODCOCK.

*** The error was in the original manuscript and remained uncorrected in the proof, an oversight committed as much by ourselves as by the author.—ED. L.

DEATH OF MR. C. GORDON HEWITT.—The death is announced of Charles Gordon Hewitt, D.Sc, F.R.S.C., Dominion Entomologist in Canada, and formerly lecturer in economic zoology in the University of Manchester. Mr. Hewitt was a recognised authority on the relation of house-flies to disease, his papers on this subject appearing in a book entitled "The House-Fly," published at the Cambridge University Press in 1914. During the war leaflets from his pen on the suppression of insects affecting troops were issued by the Canadian Department of Agriculture. His intimate entomological knowledge was placed freely at the service of humanity.

LIVERPOOL HOSPITAL FOR CANCER AND SKIN DISEASES.—The annual meeting of this hospital was held in the Town Hall on Feb. 27th. The report showed that the number of attendances recorded—37,610—was an increase of 7395 on the figures of the previous year. The average daily number of beds occupied by in-patients was 19 as compared with 14. Unfortunately the finances have not increased in a corresponding ratio, and the bank overdraft now stands at close on £4000. Like all other voluntary hospitals, this institution is suffering from the uncertainty which prevails as to the future of the voluntary principle. The Lord Mayor, who presided, expressed the hope that when the handsome sum, subscribed through the appeal of the late Lord Mayor, came to be divided, the strain on this hospital's funds would be considerably relieved.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Awards for Medical Discoveries.

A DEPUTATION from the Medical Committee of the House of Commons was received by Mr. BALFOUR (Lord President of the Council) on Tuesday, March 2nd, to urge upon the Government the establishment of a scheme of awards for medical and scientific discoveries. The suggestion put forward by the deputation was that £20,000 a year should be devoted to giving awards on similar lines to the Nobel prizes. Mr. BALFOUR received the proposal sympathetically, but pointed out that the settlement of who had actually made a particular discovery might be a difficult matter. In his view a better plan would be to place investigators in a more comfortable position for carrying out their research work.

The New Insurance Bill.

Although the text of the new National Health Insurance Bill has not yet been published, it is understood that the measure does not alter the general scope of medical benefit. Regulations, however, will follow as a result of it which will involve considerable modifications, the object of which is to improve the standard of medical services in connexion with insurance and to simplify its administration. Under the new regulations a limit is to be placed on the number of patients for whom a doctor can be responsible single-handed. A national maximum of 3000 has been fixed. The scope of free choice of doctor is to be enlarged, and there will be a half-yearly choice instead of a yearly choice. Obligations are to be laid on medical men to give emergency treatment and to provide proper surgery and waiting-room accommodation.

HOUSE OF COMMONS.

TUESDAY, FEB. 24TH.

Morphia, Morphia Salts, and Opium.

Mr. GILBERT asked the Parliamentary Secretary of the Board of Trade what was the total amount of morphia of British manufacture exported in the year 1919; what amount was exported to Japan and the United States respectively; whether the amounts included consignments by post; and what amount of opium was imported from India, Persia, and Turkey respectively into Great Britain during the year 1919.—Mr. BRIDGEMAN replied: The quantity of morphia and morphia salts registered as exported from the United Kingdom in the year 1919 was 322,970 oz., of which 121,474 oz. went to the United States of America. The records show that no morphia and morphia salts were exported to Japan. No particulars are available with regard to consignments by post. The quantities of opium registered as imported into the United Kingdom during the year 1919 from British India, Persia, and Turkey respectively were as follows: British India, 466,475 lb.; Persia, 30.558 lb.; European Turkey, 204,966 lb.; Asiatic Turkey, 133,157 lb.

Arsenical Treatment of Syphilis.

Mr. WATERSON asked the Minister of Health whether his attention had been drawn to the particulars as to a large number of deaths of soldiers after arsenical treatment for syphilis given in the paper read by Brevet-Colonel L. W. Harrison at a meeting of the British Medical Association in April, 1919; whether any special inquiries had been made into the cause of the deaths in question; and, if so, whether it was proposed to publish the results of the inquiries.—Dr. ADDISON replied: The answer to the first part of the question is in the affirmative. A special committee appointed by the Medical Research Committee is inquiring inter alia into the toxic effects of arsenobenzol compounds, and I understand that the report of the Committee will be published in due course.

Mr. WATERSON asked the Minister of Health whether he had obtained a copy of the report of the commission which sat in Germany to inquire into the cause of toxic effects produced by the arsenical treatment of syphilis; and, if so, would he arrange for a translation or a résumé of it to be published.—Dr. ADDISON replied: I have taken steps to procure the report in question, and when I have received it I will consider what I can do to meet the request of the honourable Member.

Medical Officer's Demobilisation.

Mr. ROYCE asked the Secretary of State for War whether a cable was sent to Mesopotamia in May last ordering the demobilisation of Captain R. Gillespie Smith, Royal Army Medical Corps; and, if so, why was the order not carried out, and could he state if this officer was still in Mesopotamia.—Mr. CHURCHILL replied: The answer to the first part of

the question is in the negative. A cablegram was, however, sent to the General Officer Commanding-in-Chief, Mesopotamia, asking that Captain Gillespie Smith should be sent home as soon as his services could be spared. According to the latest information in the Department he is still serving in Mesopotamia.

WEDNESDAY, FEB. 25TH.

Promotion in the Naval Medical Service.

Sir WATSON CHEYNE asked the First Lord of the Admiralty if he was aware that the proportion of surgeon captains to surgeon commanders was 1 to 19, of paymaster captains to paymaster commanders 1 to 11, of engineer captains to engineer commanders 1 to 9½, and of executive captains to executive commanders 5 to 9; whether he realised that this point was a serious matter for the Naval Medical Service, and might markedly increase the difficulty of recruiting for that service; whether any steps were being taken to remedy this disparity between the various branches of the service, and at least to place the surgeon captains on the same basis as the paymaster and engineer captains, and if so, when the result would be announced.—Dr. MACNAMARA (Parliamentary Secretary to the Admiralty) replied: The proportions are approximately as stated, though the proportion of surgeon captains to surgeon commanders is more correctly 1 to 17·4. At the present time, however, there is a considerable surplus in the number of surgeon commanders and a shortage in the junior ranks, so that normally the proportion of surgeon commanders would be very much less. The question of the number of higher ranks in the Naval Medical Service has been under consideration, and it has been decided to increase the number of surgeon rear-admirals to six and the number of surgeon captains to 16, excluding one officer specially promoted to that rank for services during the war. The number will be further considered as necessity arises, dependent in all cases on the requirements of the Naval Service. It may be pointed out that the conditions of service of medical officers in the Royal Navy have been very appreciably improved as a result of the recommendations of the Jerram-Halsey Committee, for not only have the rates of pay been increased, but the period of service for promotion from surgeon lieutenant to surgeon lieutenant-commander has been reduced from eight years to six years, and similarly that for promotion from surgeon lieutenant commander to surgeon commander, a reduction of four years in all. The earlier advancement to surgeon commander, thus authorised, has increase the apparent disparity of numbers in the higher ranks.

Deaths at Chinley Isolation Hospital.

Mr. ROBERT YOUNG asked the Minister of Health if he was aware that the death-rate at the Chinley Isolation Hospital was 55 per cent. during the period Nov. 24th to 29th, 1919; what was the reason why this high death-rate took place; whether three boys, aged 9, 7, and 5 years respectively, died within the dates referred to, all members of the same family, after antitoxin treatment; whether the cause of these deaths had been investigated, and the antitoxin in use at the time stated impounded for analysis as to its purity and with what result; whether two of the cases referred to were out of bed one hour before death; and whether the third case, admitted for observation only, died from an overdose of antitoxin.—Dr. ADDISON replied: I am informed that during the periods mentioned the number of patients in the Chinley Isolation Hospital was 24, of whom 12 were cases of diphtheria, and that during the same period the number of deaths in the hospital was four, in each case from diphtheria. These fatal cases included the three boys referred to by the honourable Member. The facts as to these cases, together with the local incidence of diphtheria in the neighbourhood, have been fully investigated by one of the medical officers, as well as by the county and local medical officers. They are of opinion that the high mortality was due to the malignant character of the disease and to the fact that those in charge of the cases before admission to the hospital had failed to administer diphtheria antitoxin. When the cases were admitted to hospital they were all in an advanced stage of the disease; and although antitoxin was at once administered it was then too late to stay the progress of the disease. I am satisfied on the evidence that the administration of antitoxin was in no way prejudicial or related to the fatal result, and that the treatment given to the cases after admission to hospital was in all respects adequate.

Hospitality for Starving Children from Central Europe.

Colonel BURN asked the Minister of Health if he was aware that the Bradford council had rejected the motion for extending hospitality to the starving children of Central Europe; and what steps did he intend to take in the event of other towns in this country expressing willingness to receive alien children from the countries of our late enemies; (2) whether any consideration had been given to this proposal from the point of view of the public health and possible contagion.

Lieutenant-Commander KENWORTHY: May I, before the question is answered, ask the right honourable gentleman whether the official religion of this country is still Christianity?

Dr. ADDISON replied: That has nothing to do with my answer. With regard to the Bradford council, I have no information to the effect suggested in the question. Proposals of the kind referred to by the honourable Member have been brought to the attention of the Government and have been discussed between the Foreign Office, the Home Office, and the Ministry of Health. The necessity of safeguarding the health of the people in this country in the event of any such proposals being sanctioned and carried out has been very closely considered and the requisite steps thought out.

Colonel BURN: Does not my right honourable friend think it inadvisable that the children of enemy aliens should be brought to this country, and does he not think that any money required for their assistance should be spent or disbursed in their own country?—Dr. ADDISON: I cannot say as to that. I have to consider whether adequate steps are taken to safeguard the health of the community, and that I have done.

Mr. RATCLIFFE: Is the right honourable gentleman aware that the Bradford corporation, whilst refusing to accept 1000 children to be domiciled in Bradford, voted £1000 and opened a public subscription to be sent for the relief of the children in the country in which they are living, but that the question is not a fair suggestion of what has been done by the Bradford corporation?—Dr. ADDISON: I believe that is so.

THURSDAY, FEB. 26TH.

Health Measures at British Ports.

Lieutenant-Colonel RAW asked the Minister of Health whether his attention had been drawn to the arrival of a ship at a British port recently with cases of small-pox on board; and whether any steps were taken to deal specially with the danger of the introduction of infectious diseases through the ports of the country.—Dr. ADDISON replied: My attention has been drawn to the case to which presumably my honourable and gallant friend refers. Like all similar cases, it was made a matter of special inquiry by one of the medical officers of the Ministry. I am giving detailed consideration to the danger of the introduction of infectious diseases through the ports of this country in view of the widespread prevalence of small-pox, typhus, and other epidemic diseases on the continent and abroad. Special arrangements have been made with the Foreign Office and the Colonial Office whereby periodical and continuous information is received and appropriate action taken. A weekly bulletin is forwarded from the Ministry to the medical officers of health of the port sanitary authorities in this country, and special bulletins as occasion requires. I have been in communication with the port sanitary authorities on the whole subject, and I am convinced that the powers at present possessed by port sanitary authorities are inadequate. Regulations will shortly be issued with the object of obtaining a greater security against the introduction of infectious diseases into this country from abroad and of increasing the efficiency of port sanitary administration, and arrangements have been made with the Treasury for the provision of special financial assistance.

The Assessment of Disability.

Captain LOSEBY asked the Pensions Minister if he would make a statement clearly defining the practice of his department in regard to the assessment of pensions in cases in which it would appear that part of the disability was attributable and part was not attributable to military service.—Sir L. WORTHINGTON-EVANS: If the honourable and gallant Member is referring to a man suffering from two disabilities, one of which is attributable to, or aggravated by, service and the other not so attributable or aggravated, pension is awarded in respect of that disability which is connected either wholly or in part with military service. In the case where a man who suffered from a disability prior to enlistment and on or after discharge is found to be suffering from the same disability in an aggravated form, the increase in disablement is considered attributable to military service and pension is assessed on the total extent of the disability.

Woman Representative for Welsh Board of Health.

Mr. ALFRED T. DAVIES asked the Minister of Health whether the Welsh Board of Health included a woman representative, and if not, whether he intended to appoint such a representative, having regard to the fact that the Welsh Insurance Commissioners included a woman member.—Dr. ADDISON replied: The answer to the first part of the question is in the negative. An increase in the present composition of the Welsh Board of Health is just now under consideration, but I am not yet in a position to make a statement. The particular point referred to by the honourable Member will be borne in mind.

Influenza Inoculation in the Army.

Mr. LUNN asked the Secretary for War whether at any time during 1918 and 1919 consignments of assorted anti-influenza vaccines, each labelled distinctively, were sent to army medical officers in charge of troops, with instructions to inoculate batches of soldiers with the different vaccines and to note carefully the effect of each vaccine as regards preventing influenza; whether instructions were sent to medical officers that they should inform the soldiers that the inoculation was entirely voluntary; and whether some of the medical officers who made the trial found that the vaccines had no effect at all in preventing influenza.—Mr. CHURCHILL replied: The honourable Member is misinformed; no consignments of assorted anti-influenza vaccines have been issued to army medical officers. Anti-influenza vaccine of a composition decided upon by a conference of specialists, and prepared at the Royal Army Medical College, has been issued to commands. Prior to this a limited amount of vaccine prepared at Guy's Hospital was used in one command. These vaccines were only used in cases of men who volunteered to be inoculated. Medical officers were instructed to prepare statistical returns showing the incidence, deaths, and occurrence of pulmonary complications amongst inoculated and uninoculated persons. As regards the second part of the question, all inoculations with vaccines in the British Army are, and have always been, voluntary, and no special mention of the point was made when instructions were issued as to the use of this vaccine. As regards the last part, the general opinion of medical officers has been that the vaccine affords some protection against attack and distinctly lessens the incidence and severity of pulmonary complications.

MONDAY, MARCH 1ST.

Medical Officers in India.

Lieutenant-Colonel BUCKLEY asked the Secretary for War if he was aware that many officers of the Royal Army Medical Corps serving in India had been in that country for nine or ten years and appeared to have little prospect of relief; and if he would state what steps were being taken to expedite their relief.—Mr. CHURCHILL replied: There are 41 officers of the Royal Army Medical Corps still in India whose tour of service has expired, and every effort is being made to release them as other Regular officers become available. Twenty-four officers are under orders to proceed to India, and these will be employed for the relief of tour-expired officers and towards completing the permanent establishment of the Royal Army Medical Corps in India.

Lieutenant-Colonel BUCKLEY asked the Secretary for War if officers of the Royal Army Medical Corps serving in India were precluded from resigning their commissions; and, if so, what was the reason for this.—Mr. CHURCHILL replied: Instructions have been issued that Regular Royal Army Medical Corps officers serving in India cannot be permitted to resign their commissions until the statutory date of the termination of the war. This step was rendered necessary by the fact that India is much below peace establishment and that at present it is not possible to provide Regular Army Medical Corps officers to replace those who were desirous of relinquishing their commissions.

Small-pox in Germany.

Mr. LUNN asked the Minister of Health whether he had received any information as to the prevalence of small-pox in Germany during the years 1918 and 1919; and, if so, whether he could give the number of cases and deaths occurring and the districts in which they were notified, with any other information that was in his possession.—Dr. ADDISON replied: There had been an epidemic of small-pox in Germany during 1917, comprising some 3000 cases, the origin of which was traced to infection brought into Germany by Russian prisoners. During 1918 cases continued to occur, amounting, so far as our information goes, to about 300 in number. In December of that year there was a recrudescence of the disease, and up to the end of 1919 about 4344 cases had been reported; of this number some 800 occurred in Dresden and about 164 at Dantzig. Among the places in which small-pox was prevalent in 1919 were: Oppeln (311 cases), Konigsberg (88), Stettin (24), Breslau (58), Berlin (25), and Cassel (34), but the number of deaths has not yet been reported. In 1917 and 1918 there were many foreigners in Germany—prisoners, refugees, and others, including Russians, Poles, Austrians, Italians, Belgians, and French; and it is more than probable that many of these foreigners were unprotected by vaccination. The information that has reached us does not include separate statistics as to the number of Germans and foreigners respectively who were attacked during 1918 and 1919, or the number of deaths in each category.

National Health Insurance Bill.

Dr. ADDISON presented a Bill "to amend the Acts relating to National Health Insurance."

TUESDAY, MARCH 2ND.

Discontent among R.A.M.C. Officers.

Sir WATSON CHEYNE asked the Secretary for War if he was aware of the grave discontent among the Special Reserve and Territorial Force officers of the Royal Army Medical Corps in Mesopotamia owing to the fact that they could not get leave, some having spent two, or even three, hot seasons in Mesopotamia without leave; and, especially in view of the prospect of having to spend another hot season there, would he take steps to give relief to these men.—Mr. CHURCHILL replied: Many of these officers, in common with those of the Regular Royal Army Medical Corps and the Indian Medical Service, have leave due to them. This is a matter for the local military authorities, but I would remind my honourable and learned friend that the granting of leave must necessarily interfere with the release of officers eligible for demobilisation. Regular officers of the Royal Army Medical Corps are being sent out as they become available to replace officers of the Special Reserve and Territorial Force whose demobilisation has been applied for.

Medical News.

UNIVERSITY OF LONDON.—The Senate has appointed Dr. James McIntosh to the University chair of pathology at Middlesex Hospital Medical School, and Dr. Sidney Russ to be the first incumbent of the Joel chair of physics. The Senate has resolved to organise a course of lectures on mental deficiency for medical officers of local authorities and institutions and medical men engaged in work for defectives.

Chair of Radiology tenable at the Middlesex Hospital Medical School.—On the tragic death of Mr. C. R. C. Lyster the authorities of Middlesex Hospital and Medical School were faced with the immediate necessity of appointing an officer in charge of the X ray and electro-therapeutic department. It had been felt for some time that if real progress was to be made in radiology in this country, it was necessary to ensure that an expert in this branch of medicine should be able to devote his whole time to the charge of this department of the hospital and to the work of education and research. With this object in view, the hospital authorities approached the University of London to secure coöperation in achieving their object by giving high academic position in achieving whole-time officer appointed. At a meeting of the Senate on Feb. 25th a resolution was passed instituting a University Chair of Radiology tenable at the school. Opportunities for the investigation of the possibilities of radiotherapy at the Middlesex Hospital are very great. Over 100 beds are constantly occupied with cases of cancer; in the physics department there are special laboratories for the investigation of physical and pathological problems; also a large supply of radium has been obtained. Intimate connexion will be maintained between the new department and that of physics, and from this association progress is anticipated in the treatment and cure of cancer. The department will be of service to men proposing to specialise in radiology, a branch of medicine which has lately been recognised by Cambridge University as worthy of a diploma. The maintenance of the new professorship will be a financial strain for the institution to bear, but it is hoped that some assistance may be obtained by gifts for the purpose of endowment.

UNIVERSITY OF BELFAST.—In consequence of the great development of the department of anatomy, it has been decided to establish a class in human embryology, to abolish the class of elementary anatomy, and substitute a system of tutorial instruction, arranged in connexion with the practical class, and to establish a revision class. New regulations for the department of applied anatomy have also been sanctioned.

THE Middlesex Hospital has benefited to the extent of £5000 by the exhibition of nurseries at the Ideal Homes Exhibition.

PURSES FOR THE LONDON FEVER HOSPITAL.—At a reception held at the Mansion House on Feb. 26th Princess Mary received purses on behalf of the London Fever Hospital, including a donation of £1000 from Lady Strathcona. This hospital, which has 178 beds, is the only one in London other than the institutions supported by the rates to which infectious cases can be sent, and is in great danger of having to close its wards owing to want of funds. As Lord Balfour of Burleigh, the president of the hospital, pointed out, a subscription to the institution is a form of insurance against infectious disease, and a governor is entitled to free treatment for any member of his household. During the war 500 officers, nurses, and soldiers were treated in the London Fever Hospital.

OXFORD OPHTHALMOLOGICAL CONGRESS.—The next meeting of the Oxford Ophthalmological Congress will be held on Thursday and Friday, July 15th and 16th, at Keble College, Oxford. A discussion on "Perimetric Methods" will be opened by Dr. Luther C. Peter, of Philadelphia, U.S.A. Members intending to take part in the discussion or able to contribute cases, specimens, new operations, or novelties of any kind are requested to send in their names to the honorary secretary, Mr. Bernard Cridland, Salisbury House, Wolverhampton. The Doyne Memorial lecture will be delivered on July 16th by Mr. F. Richardson Cross on "The Nerve Paths and Centres Concerned with Sight."

RESIDENTIAL TUBERCULOSIS TREATMENT: CONFERENCE OF MEDICAL OFFICERS.—A representative Conference of Medical Superintendents of Sanatoriums, Training Colonies, and Hospitals for Tuberculosis was held at 122, Harley-street, London, W., on Feb. 23rd. It was unanimously decided to form a new society, which should have as its aim the improvement of the methods of administration, diagnosis, and treatment of tuberculosis in residential institutions. Membership is limited to medical men and women whose duties lie mainly in the medical charge of residential institutions for the treatment of tuberculosis. "Associate members" may be elected from among those who have formerly held such posts, and from junior officers at present at such institutions. The annual subscription was fixed at 10*s.* 6*d.* for members and 5*s.* for associate members. It is intended to hold quarterly meetings, and to circulate among members full reports of the conclusions and recommendations of the society and its committees. Office bearers were elected as follows: Dr. Jane Walker (President), Dr. James Watt (secretary and treasurer); executive committee: Drs. Esther Carling, Elwin H. T. Nash, Marcus Paterson, A. Niven Robertson, P. C. Varrier-Jones, R. C. Wingfield, George Jones, and Sir Henry Gauvain. Small committees were appointed to collect information and to formulate recommendations, for report to the next meeting of the society to be held in May, on various questions relating to the standards of treatment and administration in institutions. Among these are the comparison of scales of dietary, the standards of medical and nursing staff, the methods of dealing with advanced and dying cases, the coördination of statistics, the relative values of different methods of treatment, and the construction and equipment of institutions.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held at Queen Anne's Gate Buildings, Westminster, on Feb. 19th, with Sir Francis H. Champneys in the chair. Two midwives were struck off the roll, the following charges, amongst others, having been brought forward in the case of one of them:—

That being in attendance at a confinement the midwife was guilty of negligence in the following respects. The patient, suffering from illness with abdominal pain, offensive discharge, and raised temperature, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, as provided by Rule E. 20; the patient being in the condition aforesaid, the midwife neglected to hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might immediately be forwarded to a medical practitioner or to an approved institution, as required by Rule E. 20; she neglected to take and record the pulse and temperature of the patient at each visit, as required by Rule E. 14; neglected to wash the patient's external parts with soap and water and to swab them with an efficient antiseptic solution at any time, as required by Rule E. 8, and she neglected to disinfect her hands and forearms before touching the generative organs of the patient, as required by Rule E. 14. Medical aid having been sought for the patient, the midwife neglected to notify the local supervising authority thereof, as required by Rule E. 22 (1) (a), and the case being one supposed to be infectious, she neglected to send to the local supervising authority the notification required by Rule E. 6, and the notification that she was herself liable to be a source of infection pursuant to Rule E. 22 (1) (e). Being in contact with a case supposed to be infectious, the midwife attended another case in her confinement and continued to visit her without having undergone the disinfection prescribed by Rule E. 6. The midwife did not enter records of the pulse and temperature of her patients in a note-book or on a chart carefully preserved, as required by Rule E. 14, and did not keep her register of cases as required by Rule E. 24.

DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.—Many interesting questions were touched upon at the annual meeting of the David Lewis Northern Hospital, held in the Liverpool Town Hall under the presidency of the Lord Mayor, on Feb. 27th. In submitting the annual report Mr. W. H. S. Oulton, vice-chairman of the hospital, stated that its keynote was the word "increase." There had been increases in everything during the year. The number of in-patients had increased by several hundreds, the names of pensioners treated had doubled, and the number of out-patients had increased by 15,000. The staff had been increased, not only because of the greater number of patients, but also because they felt that the nurses should work fewer hours. Salaries had also been made larger, and the expenditure on foodstuffs, surgical and medical appliances, &c., had also gone up. The committee had done its best, but they could not run a first-class hospital on third-class rates. He made a special appeal to the working classes to support the hospital, which is situated near the docks in a working-class neighbourhood where accidents are common. The working man was a sportsman, and if made to realise that the hospital supplied him with the highest medical and surgical skill he would feel it his duty to contribute more generously to its maintenance. The financial statement showed that the expenditure for the year amounted to £32,161, and the income to £26,973, being a loss on the year of £5188, to which had to be added £6953, the debit balance carried forward from the previous year. In submitting these figures the honorary treasurer, Mr. W. B. Stoddart, stated that had it not been for the income derived from the maintenance of soldiers and pensioners, from the Public Health Department, and from private patients, the financial position of the hospital would be deplorable. In his capacity as treasurer it had been his duty to approach many rich men for subscriptions, and the universal attitude seemed to be that they had ceased to subscribe to the hospitals because they felt that such institutions should be supported by the rates. He had, however, information that made it quite clear to him that the Government had no intention of taking over the voluntary hospitals.

In moving the adoption of the report and accounts the Lord Mayor stated that he did not think the voluntary hospitals would ever be placed on the rates, but he thought that the time was ripe for such bodies as the corporations, vestries, and other local authorities to agree to give some sort of subsidy to the different hospitals. The matter was actually being considered at the present time, and he hoped for a sympathetic decision. Personally he thought it would be a mistake if the voluntary hospitals were taken over either by Government or by the municipalities. Such a step would impoverish us in the grace of charity, for the diminution of individual interest in the hospitals would be enormously to their disadvantage. He had great hope that the scheme, initiated by his predecessor in office, to raise £80,000 for the voluntary hospitals would do much to relieve the situation in which, at present, all the hospitals in the city found themselves. Already close on £46,000 had been raised, which was a proof that voluntary giving was not yet dead.

THE Royal Hospital for Women, Shaw-street, Liverpool, has received a generous donation of £10,000 from Mr. and Mrs. John Rankin, who took this practical method of expressing their admiration of what they had seen during a visit paid to the institution recently.

THE LATE DR. F. W. S. CULHANE.—Frederick William Slater Culhane, who died at Hastings on Feb. 15th, had only recently retired from the office of medical superintendent of Hastings Workhouse, which he had held for a long time. He was a past president of the East Sussex Medico-Chirurgical Society, and held the office of treasurer. A University College man, he took the L.S.A. diploma in 1877, and became M.R.C.S. Eng. in 1878.

KING EDWARD VII. HOSPITAL, CARDIFF.—An appeal has been issued by the Lord Mayor of Cardiff for £150,000 on behalf of the King Edward VII. Hospital, Cardiff. It is not the intention of the board of management to erect further buildings on the present site, but the money is urgently needed to enable the hospital to complete its buildings and extend its accommodation and equipment to meet the growing demands made upon it. At the present moment there are 267 beds available and 1090 patients on the waiting list. A large scheme of extension was decided upon in 1915–16 with a view to provide a further 170 beds. It is essential to the efficient working of the hospital that adequate and suitable accommodation should be provided for the nursing staff, many of whom now have to be lodged in adjacent houses. When the new wards are completed a nursing staff of 250 will be utilised, and a nurses' home is urgently required. The appeal is addressed especially to the employers of labour and the workmen engaged in the South Wales and Monmouthshire area, since the King Edward VII. Hospital is the principal centre for the relief of sickness within this area; but those interested in the Welsh National School of Medicine, of which the hospital is an essential part, are also specially concerned. Subscriptions may be sent to the Lord Mayor of Cardiff, City Hall, Cardiff.

An out-patient department in psychiatry has been arranged at the hospital. When, in due course, a psychiatric clinic for in-patients is established in Cardiff it is proposed that the out-patient clinic be and remain part of the out-patient department of the hospital. As soon as the necessary arrangements have been carried out cases of mental and associated trouble in their early phases will be able to receive advice and treatment at the new out-patient department.

WOMEN will be granted admission to the Fellowship of the Royal College of Surgeons of Edinburgh.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—Hospitals in the County of London, or within nine miles of Charing Cross, desiring to participate in the grants made by this Fund for the year 1920 must make application before March 31st to the honorary secretaries, 7, Walbrook, E.C. 4. Applications will also be considered from convalescent homes which are situated within the above boundaries, or which, being situated outside, take a large proportion of patients from London. Applications will also be considered from sanatoriums for consumption which take patients from London, or which are prepared to place beds at the disposal of the Fund for the use of patients from London hospitals.

Distribution of Surplus Red Cross Funds.—The latest date for the receipt of applications for grants out of the special distribution of surplus Red Cross Funds, in aid of schemes of extension or improvement at London hospitals which can and will treat ex-soldiers or ex-sailors, is March 12th.

BRIGHTON DENTAL HOSPITAL.—The Governors of the Brighton, Hove, and Preston Dental Hospital at their annual meeting on Feb. 27th approved of a scheme to amalgamate with the hospital the Public Dental Service, a provident dental institution carried on in the same building, which receives payment by instalments from the patients. The facilities for free treatment in urgent cases are still to be available, and under the new regime the hospital will cover the whole range of dentistry, instead of confining itself to purely operative work.

THE LATE DR. T. G. ALDERTON.—Thomas Gunton Alderton, who was well known both as a general practitioner at Hammersmith and as honorary treasurer of the Medical Defence Union, died on Feb. 22nd in his seventieth year, following an attack of hemiplegia which occurred about four months ago. He was educated at Epsom College, and qualified with the M.R.C.S. Eng. and L.R.C.P. Lond. in 1874. He served as house physician to the Hospital for Diseases of the Chest, Victoria Park, and later as house surgeon at the West London Hospital, where he was afterwards appointed anæsthetist, becoming consultant anæsthetist on retirement from the active staff. He was the first honorary secretary of the West London Medico-Chirurgical Society, of which he was president in 1890–91, and at the time of his death treasurer. He was also the treasurer of the Cavendish Lodge of Freemasons, which was founded by some of the staff of the West London Hospital and which was one of the earliest medical lodges to be consecrated in London. Among the local appointments which he held were those of surgeon to the Convent of the Sisters of Nazareth and medical attendant to the St. James's Home, Fulham. Dr. Alderton was a man of sound judgment and sterling character, and his death is a loss to the professional world.

LEICESTER PUBLIC MEDICAL SERVICE.—The board of management, in presenting a report of the Leicester Public Medical Service for 1919, records an increase in the rates of contributions paid by subscribers to the service, which came into operation in July last. Special reduced rates are charged to subscribers who are in receipt of Old Age Pensions and to those who are receiving assistance from the guardians. The Leicester Public Medical Service provides free medical treatment for the uninsured blind of Leicester, and also for members of the Cripples Guild and the Wycliffe Society for Helping the Blind. The Education Committee has continued the arrangement with the board, whereby the school clinic work is carried on at the Central Dispensary, and 3135 new cases, in addition to many others, received treatment during the year, comprising vision, 580; nose, ear and throat, 602; and teeth, 1953. The board recently decided to set up and equip a pathological laboratory at the Central Dispensary. Various articles of equipment have been acquired from the Medical Research Committee, and Dr. T. C. Clare has been appointed pathologist.

The committee of the Leicester Subdivision of the Union of Medical Practitioners, in presenting their report for the year 1919, states that the scheme under which arrangements were made for giving medical attendance to patients of doctors absent on military service will henceforth be discontinued, since the need for it no longer exists. The success of a scheme for collective locum tenancies during the summer holidays is recorded. Thirteen practitioners availed themselves of the facilities and contributed £163 16*s.* to the pool. A scheme on similar lines for collective locum tenancies during sickness or short absences has just been arranged, to remain in force until March 31st. The following officers were elected for the ensuing year: Dr. E. Lewis Lilley (chairman), Dr. A. Foster (vice-chairman), Dr. Astley V. Clarke (treasurer), and Dr. W. Moffat Holmes (honorary secretary).

A MATINEE, to celebrate the jubilee of the Ladies' Association of the Great Northern Central Hospital, Holloway, N., will be held at the Palladium in May next.

THE LATE Dr. F. M. NEWTON.—Francis Morley Newton, who died on Feb. 15th at the age of 45, was a student of St. Bartholomew's Hospital and qualified M.R.C.S. Eng., L.R.C.P. Lond., in 1905. After holding a resident post at the Bagthorpe Infirmary, Nottingham, he became resident medical officer to the Stoke-upon-Trent Workhouse Infirmary some ten years ago, and had held this post ever since. He was public vaccinator to the Stoke-upon-Trent rural district, and during the war acted as anæsthetist to the local war hospital.

TUBERCULOSIS IN DEVON.—At a recent meeting of the Torrington rural council the chairman stated that there were 1000 cases of "consumption" not notified in the county. The medical officer of health remarked that it was the duty of medical men who attended these cases to notify them, and unless they did so some action would have to be taken.

SOUTHMEAD HOSPITAL, BRISTOL.—At a recent meeting of the Bristol guardians it was stated that the Southmead Hospital, completed in 1914 and used till recently as a military hospital, would shortly be opened for the sick poor. It provides 544 beds, and is situated on the edge of the city at a height several hundred feet above sea level. There is ample room for expansion. It is intended to appoint a team of consultants to act with the permanent staff of the hospital, and to make some provision for patients able to pay a small sum for their treatment.

BRISTOL ROYAL INFIRMARY.—The Duchess of Beaufort and other ladies have issued an appeal "to women for women," asking for £15,000 to maintain 30 beds for three years in the maternity department of the Bristol Royal Infirmary. These beds are available now that the soldiers have left the Royal Edward Memorial Wing of the institution, and it is confidently expected that the required sum will be subscribed.

ROYAL DEVON AND EXETER HOSPITAL.—The annual meeting of the subscribers to this institution was held on Feb. 26th. The financial statement showed that the ordinary expenditure exceeded the ordinary income by £2360. The chairman (Sir Chaning Wills) stated that when the new wing was completed the annual cost of working it would be about £10,000. A member alluded to a suggestion, made at the annual meeting of the Exeter Dispensary, as to the amalgamation of that institution with the hospital. It was stated that a subcommittee of the dispensary had been appointed to approach the hospital authorities on the matter. The meeting decided that the hospital committee should consider the subject before receiving the delegates.

PAYING PATIENTS AT THE PAIGNTON HOSPITAL.—At the annual meeting of the friends of the Paignton (Devon) Hospital it was decided that private patients who pay 2½ guineas weekly shall in future pay their medical attendant. It was stated that some patients were trying to gain admission to the hospital who were in a better financial position than the medical men.

OCKENDEN CONVALESCENT HOME, TORQUAY.—At the annual meeting of the subscribers to this institution, recently held, the medical report stated that 258 patients had been admitted, with an average stay of 29 days. Dr. A. E. Carver, honorary physician, and Mr. H. K. Lacey, honorary surgeon, who had both held their appointments for 15 years, were awarded a hearty vote of thanks for their services.

DEATH OF DR. E. C. FENOULHET.—Edward Cooper Fenoulhet, a well-known Herne Bay practitioner, died at his residence recently in his sixty-seventh year. He received his medical education at Queen's College, Galway, and at St. Mary's Hospital, London, and obtained the L.M., Coombe Hospital, Dublin, in 1879, later taking the L.R.C.P. & S. Edin. Dr. Fenoulhet was an examiner, lecturer, and honorary member of the St. John Ambulance Association and senior honorary medical officer to the Herne Bay Cottage Hospital; he was also a justice of the peace for Kent.

THE LATE DR. J. PINKERTON.—James Pinkerton, who died on Feb. 16th, aged 58, was a student of Queen's College, Belfast, an exhibitioner of the Belfast Royal Hospital in 1880, and a Coulter exhibitioner in the following year, when he graduated M.D., M.Ch., and L.M. in the Royal University of Ireland. In 1883 Dr. Pinkerton went to Liverpool, where he was appointed resident medical officer of the Brownlow Hill Infirmary, and was afterwards elected to the staff of the Birkenhead and Wirral Children's Hospital. He took an active interest in the Children's Convalescent Home at West Kirby, to which he was a visiting physician.

Medical Diary.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.
THURSDAY, March 11th.—Papers:—Mr. W. G. Duffield, Mr. T. H. Burnham, and Mr. A. A. Davis: The Pressure upon the Poles of Metallic Arcs, including Alloys and Composite Arcs (communicated by Prof. O. W. Richardson).—Mr. J. H. Vincent: Further Experiments on the Variation of Wave Length of the Oscillations generated by an Ionic Valve due to Changes in Filament Current (communicated by Prof. W. H. Bragg, O.B.E.)—Mr. H. A. Daynes: (1) The Theory of the Katharometer (communicated by Prof. S. W. J. Smith); (2) The Process of Diffusion through a Rubber Membrane (communicated by Prof. S. W. J. Smith).

ROYAL SOCIETY OF MEDICINE 1, Wimpole-street, W.

Thursday, March 11th.

OCCASIONAL LECTURE: at 5 P.M.
Sir Jagadis Bose, C.I.E., C.S.I.: Plant and Animal Response (with Demonstration of Growth by the Magnetic Crescograph).

MEETINGS OF SECTIONS.

Wednesday, March 10th.

SURGERY: SUB-SECTION OF PROCTOLOGY (Hon. Secretaries—W. Sampson Handley, Sir Gordon Watson): at 5.30 P.M.
Cases:
Mr. Lockhart-Mummery: Case of Double Growth in Colon.
Mr. Graeme Anderson: Syphilitic Stricture of Rectum.
Mr. Gabriel: Intestinal Obstruction following Abdomino-perineal Excision.
And other cases.

Thursday, March 11th.

NEUROLOGY (Hon. Secretaries—P. W. Saunders, George Riddoch): at 8.30 P.M.
Professor J. S. B. Stopford: Results of End-to-end Suture of Peripheral Nerves.

Friday, March 12th.

CLINICAL (Hon. Secretaries—T. P. Legg, S. A. K. Wilson): at 5 P.M.
Exhibition of Cases.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, March 8th.—8.30 P.M., Dr. L. E. Hill: Heat Hyperpyrexia—the Clinical Aspect.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
WEDNESDAY, March 10th.—4.30 P.M., Paper:—Mr. H. M. Thornton: Gas in Relation to Industrial Production and National Economy.

HUNTERIAN SOCIETY, at the School of Oriental Languages, Finsbury-circus, E.C.
WEDNESDAY, March 10th.—9 P.M., Papers:—Dr. F. H. Humphris: Modern Physiotherapy.—Mr. J. E. H. Roberts: The Treatment of Septic Fingers.

CHILD STUDY SOCIETY, LONDON, at the Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.
THURSDAY, March 11th.—6 P.M., Miss M. J. Reaney, D.Sc.: The Educational Needs of Adolescence.

HARVEIAN SOCIETY, at the Medical Society's Rooms, 11, Chandos-street, Cavendish-square, W.
FRIDAY, March 12th.—8.30 P.M., Harveian Oration:—Sir Thomas Horder: The Diagnostic Significance of Nerve Symptoms in Acute Infections.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
TUESDAY, March 9th, AND THURSDAY.—5 P.M., Goulstonian Lectures:—Dr. J. L. Birley, C.B.E.: The Principles of Medical Science as Applied to Military Aviation. (Lectures I. and II.)

UNIVERSITY OF LONDON.
Advanced Lectures in Physiology to Students of the University and others interested in the subject.
A Course of Eight Lectures on Physiologically Balanced Solutions will be given by Dr. W. L. Symes in the Physiological Laboratory of the University, South Kensington, S.W.:—
TUESDAY, March 9th.—5 P.M., Lecture VII.
A Course of Eight Lectures on the Reaction of the Blood and Acidosis will be given by Dr. J. W. Trevan, at St. Bartholomew's Hospital, West Smithfield, E.C.:—
WEDNESDAY, March 10th.—4.30 P.M., Lecture VII.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Mile End, E.
A Course of Instruction on the Diseases of Children, open to Post-Graduates and to Students of the Hospital. (The lectures will be illustrated by lantern slides.)
WEDNESDAY, March 10th.—10 A.M., Clinical Demonstration:—Dr. Miller. (At the Children's Out-patient Department.)
SATURDAY.—10.15 A.M., Lecture X., Dr. Hutchison: General Diseases. (At the Anatomical Theatre.)

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).
A Course of Lectures on Syphilis is being given by various members of the staff of King's College Hospital during the present year.
FRIDAY, March 12th.—9.15 P.M., Mr. A. Cheatle: Syphilis of the Ear.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, POST-GRADUATE COURSE, Westmoreland-street, W.
MONDAY, March 8th.—11 A.M., Out-patients: Dr. Goodall. 2 P.M. In-patients: Dr. Moon.
TUESDAY.—2 P.M., Out-patients: Dr. R. Wells. 3 P.M., In-patients: Dr. Gibbes.
WEDNESDAY.—2 P.M., Out-patients: Dr. Moon. 5.30 P.M., Lecture:—Dr. Gibbes: Pericarditis.
THURSDAY.—10 A.M., In-patients: Dr. Hamill: 2 P.M., Out-patients: Dr. Price.
FRIDAY.—2 P.M., Out-patients: Dr. Gibbes. 2.30 P.M., In-patients: Dr. Wells.
SATURDAY.—10.30 A.M., In-patients: Dr. Hamill.

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.
Special Course of Lectures and Demonstrations on Tuberculosis for Medical Men and Women qualifying to become Tuberculosis Officers, General Practitioners, and others. Bacteriological Demonstrations will be given in the Laboratories of the Institute, and visits arranged to Sanatoriums, Tuberculosis Dispensaries, &c.
THURSDAY, March 11th.—5 P.M., Lecture IX.:—Dr. H. M. Berry: X Ray in the Diagnosis of Tuberculosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
TUESDAY, March 9th.—2 P.M., Demonstration (II.):—Dr. A. J. Whiting: The Early Diagnosis of Pulmonary Tuberculosis. 4.30 P.M., Lecture:—Dr. E. Jones: The Advantages and Disadvantages of Psycho-analysis.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C. 1.
MEDICAL SCHOOL.
MONDAY, March 8th.—2–3.30 P.M., Out-patient Clinic: Dr. Collier. 3.30 P.M., Ward Cases: Dr. Saunders.
TUESDAY, March 9th.—2–3.30 P.M., Out-patient Clinic: Dr. Grainger Stewart. 3.30 P.M., Dr. Risien Russell.
WEDNESDAY, March 10th.—2 P.M., Mr. Sargent: Injuries of Peripheral Nerves and their Surgical Treatment. (II.) 3.30 P.M., Dr. Hinds Howell: Syphilis of the Nervous System. (II.)
THURSDAY, March 11th.—2–3.30 P.M., Out-patient Clinic: Dr. Farquhar Buzzard. 3.30 P.M., Ward Cases: Dr. S. A. Kinnier Wilson.
FRIDAY, March 12th.—2–3.30 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Dr. Gordon Holmes: Ataxia.
SATURDAY, March 13th.—9 A.M., Surgical Operations.
Fee for Post-Graduate Course £7 7s. C. M. HINDS HOWELL, Dean.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
SATURDAY, March 6th.—10 A.M., Mr. Banks Davis: Operations of the Throat, Nose and Ear.
MONDAY, March 8th.—5 P.M., Mr. D. Armour: Operations for Hernia.
TUESDAY.—2 P.M., Dr. Pernet: Demonstration of Skin Cases.
WEDNESDAY.—2 P.M., Dr. Morton: Demonstration of Radiography.
THURSDAY.—2 P.M., Mr. B. Harman: Operation for Squint.
FRIDAY.—5 P.M., Special Lecture:—Sir A. Pearce Gould: An Old Clinical Lecture, New Edition.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY, March 10th.—4.30 P.M., Dr. Inman: Laboratory Methods in the Diagnosis of Tuberculosis.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.
MONDAY, March 8th.—3 P.M., Sir John Cadman, K.C.M.G.: (1) Modern Development of the Miner's Safety Lamp.
TUESDAY.—3 P.M., Prof. A. Keith: British Ethnology: The Invaders of England. (Lecture II.)
THURSDAY.—3 P.M., Lieut.-Col. E. Gold, R.E., D.S.O.: The Upper Air.

CHADWICK PUBLIC LECTURES, in the Lecture Room, Royal Society of Arts, John-street, Adelphi, W.C.
MONDAY, March 8th.—5.15 P.M., Lecture:—General Sir John Goodwin, K.C.B., C.M.G., D.S.O.: Military Hygiene in Peace and War. I., Army Hygiene prior to the Recent War (illustrated by lantern slides).

UNIVERSITY OF SHEFFIELD—FACULTY OF MEDICINE POST-GRADUATE DEMONSTRATIONS, at the Sheffield Royal Hospital.
MONDAY, March 8th.—3.30 P.M., Dr. Nutt: X Ray Examination of the Urinary System.
TUESDAY.—4 P.M., Dr. Hay: Errors of Refraction.
WEDNESDAY.—3.30 P.M., Dr. Wilkinson: Treatment of Suppurating Ears.
THURSDAY.—3.30 P.M., Dr. Skinner: Lupus, Lichen Planus, &c.
FRIDAY.—4 P.M., Dr. Hay: Subjective Sight-testing

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, March 9th.—4.30 P.M., Dr. A. E. Barclay: X Ray Demonstration of Œsophagus and Stomach.

SALFORD ROYAL HOSPITAL AND ANCOATS HOSPITAL POST-GRADUATE DEMONSTRATIONS, at the two Hospitals alternately.
THURSDAY, March 11th.—4.30 P.M., Lecture:—Dr. Reid: Locomotor Ataxia. (At Ancoats Hospital.)

BRIGHTON DIVISION OF THE BRITISH MEDICAL ASSOCIATION, at the Sussex County Hospital.
THURSDAY, March 11th.—4 P.M., Clinical Demonstration.

WESTON-SUPER-MARE HOSPITAL.—At the annual meeting of the subscribers to this hospital, held last week, Dr. J. Wallace, on behalf of the Weston-super-Mare Red Cross Hospital, presented the hospital with £3070.

Appointments.

HAWKER, G. P. D., M.D., B.C. Cantab., has been appointed Honorary Consulting Surgeon to the Exeter Dispensary.

HENDERSON, C. J., M.B. Durh., Assistant Medical Officer at the Royal Albert Institution, Lancaster.

JONES, W. H., M.B., B.S. Lond., Honorary Surgeon Anæsthetist to Charing Cross Hospital and Lecturer on Anæsthetics in the Medical School.

MACE, J. F., L.D.S. Eng., Honorary Dental Surgeon to the Ockenden Convalescent Home, Torquay.

ROPER SAUNDERS, W. E., L.R.C.P., M.R.C.S., D.P.H., Assistant County School Medical Officer for Durham.

STEELE-PERKINS, J. S. S., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Honorary Consulting Surgeon to the Exeter Dispensary.

SULLIVAN, W. C., M.D. R.U.I., Superintendent of Broadmoor Asylum.

WOODROFFE, H. D., M.D., B.Ch., B.A.O. T.C.D., Medical Officer of Health for the Stratton (Cornwall) Rural District.

Certifying Surgeons under the Factory and Workshop Acts: JEFFERISS, I. M., M.R.C.S., L.R.C.P., Lond. (Okehampton); BUCHANAN, T. A., L.R.C.P. & S.I., (Clogher); LOGAN, D. D., M.D. Glasg. (Newmains); TWAMLEY, H. J., L.R.C.S. Irel., L.A.H. Dub. (Castle Hedingham); BRITTAIN, P. M., L.S.A. Lond. (Hatfield).

Vacancies.

For further information refer to the advertisement columns.

Ashton-under-Lyne District Infirmary.—Asst. H.S. £200. Second Asst. H.S. £150.

Bath, Royal Mineral Water Hospital.—Res. M.O. £250.

Bexley, Kent, London County Mental Hospital.—Asst. M.O. 7 gs. a week.

Birmingham City Education Committee.—Asst. Sch. M.O.'s £450.

Birmingham, Dudley-road Hospital.—Sen. Asst. M.O. £375. Also Jun. M.O. £275.

Birmingham, Monyhull Colony for Epileptics and Feeble-minded.—Res. M.O. £650.

Blackburn and East Lancashire Royal Infirmary.—Jun. H.S. £250.

Bolingbroke Hospital, Wandsworth Common, S.W.—P. £50.

Bournemouth, Royal Victoria and West Hants Hospital.—S. and Anæs. Hon. S. for Ophth. Dept. Also Res. M.O. £200.

Bradford Royal Infirmary.—Two H.S.'s £200.

Bridgend, Glamorgan County Asylum.—Jun. Asst. M.O. £350.

Bristol General Hospital.—Pathologist and Curator of the Museum. £500. Also Two H.P.'s, H.S., Obstet.O., and H.S. All £175.

British Guiana.—Asst. M.O. £400.

Cambridge, Addenbrooke's Hospital.—Hon. Asst. P.

Cambridgeshire Mental Hospital, Fulbourn, near Cambridge.—Asst. M.O. £400.

Cancer Hospital, Fulham-road, S.W.—Hon. Dent. S. 25 gs.

Carlisle, Cumberland Infirmary.—H.P. £250.

Chelsea Hospital for Women, Arthur-street, Chelsea, S.W.—H.S. £120.

Croydon Borough Hospital for Infectious Diseases.—Res. M.O. £500. Asst. Res. M.O. £350.

Derbyshire Royal Infirmary.—Hon. Asst. P. Also Asst. M.O. to Venereal Diseases Department.

Devonport, Royal Albert Hospital.—H.S. £200.

Doncaster Borough.—Asst. M.O. and Sch. M.O. £500.

Dorchester, Dorset County Council Education Committee.—School Dentists. £400.

Eastbourne Eye Infirmary.—Hon. Ophth. S.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—H.S. £125. Also Cas. O. £120.

East Suffolk County Education Committee.—Dentist. £400.

Edmonton Education Committee.—Oph. S. 2 gs. per half day.

Essex County Council.—Asst. County and Sch. M.O. and Mental Expert. £750.

Gateshead Dispensary.—Asst. M.O.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—H.P and Asst. H.S. £175 and £150 each.

Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—Cas. M.O. £150. Also Hon. Dent. S.

Hospital for Sick Children, Great Ormond-street, London, W.C.—Director of the Massage and Physical Exercises Department.

Hull Education Committee.—Sch. Dent. £400.

Hull Royal Infirmary.—Asst. H.S. £250.

Johannesburg (University of South Africa), South African Medical School of Mines and Technology.—Prof. Vet. Anat. £800.

Kesteven County Council.—Female Asst. Sch. M.O. and M.O.H. £450.

Lancaster County Asylum.—Asst. M.O. £300.

Leeds Public Dispensary.—Res. M.O. £200.

Leicester City Hospital and Sanatorium, Groby-road.—Two Res. M.O.'s. £400 and £300.

Leicester Royal Infirmary.—H.P. £250.

Lewisham Union.—Sec. Asst. M.O. £300.

Liverpool, Brownlow Hill Poor-law Hospital.—Res. Asst. M.O. £300.

Liverpool, David Lewis Northern Hospital.—Two H.P.'s and Three H.S.'s. £150.

Liverpool, Royal Southern Hospital.—Two H.P.'s and three H.S.'s. £100.

Liverpool, Stanley Hospital.—Two H.S.'s. £150.

London County Council, Public Health Department.—Asst. M.O.'s. £400.

London Hospital, Whitechapel, E.—Asst. S. and Asst. P.

London Homœopathic Hospital, Great Ormond-street and Queen-square, Bloomsbury, W.C.—P. in charge of Dept. for Mentally Defective Children. Also P. for Diseases of Children.

London Lock Hospital, Dean-street, Soho, W.—H.S. £200.

Macclesfield County Asylum.—Asst. M.O. £350.

Maidstone, Kent County Ophthalmic Hospital.—H.S. £250. Also Hon. Aural S.

Maidstone, Kent Education Committee.—Sch. M. Inspec. £492.

Maidstone, West Kent General Hospital.—H.P. £200.

Manchester, Ancoats Hospital.—Hon. Aural S. Also Anæsthetist. 10s. 6d. per attendance.

Manchester Children's Hospital, Pendlebury, near Manchester.—Res. M.O. £150. Also Asst. P. £50.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—Hon. S.

Manchester, St. Mary's Hospitals for Women and Children.—H.S. for Whitworth Park Hospital. £100.

Metropolitan Hospital, Kingsland-road, E.—H.P., H.S., Asst. H.P., and Asst. H.S. £100.

Middlesbrough Education Committee.—Asst. Sch. M.O. £450.

Miller General Hospital for South-East London, Greenwich, S.E.—M.O. for X ray Dept. Also H.P. and Registrar. £100.

Monmouthshire Education Committee.—Asst. M.O. £500. Also Sch. Dentist. £400.

National Hospital for the Paralysed and Epileptic, Queen-square, W.C.—H.P. £150.

Newcastle-upon-Tyne, City Hospital for Infectious Diseases, Walker Gate.—Res. M. Asst. £350.

Newcastle-upon-Tyne Dispensary.—Two Hon. S.'s and One Hon. P.

Northampton General Hospital.—H.S. £150.

Nottingham General Hospital.—Hon. M.O. for X Ray and Electro-Therapeutic Dept. Also H.P. £150.

Portpatrick.—M.O. and Public Vaccinator. £80.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Dist. Res. M.O. £80.

Queen Mary's Hospital for East End, Stratford, E.—H.P. and H.S.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Two Asst. S.'s

Queensland, Institute Tropical Medicine, Townsville.—Physiologist and Biochemist. £700.

Reading County Borough.—M.O.H. £800.

Reading, Royal Berkshire Hospital.—Pathologist. £600.

Royal Free Hospital.—Temp. Asst. S.

Russian Red Cross Hospital in Near East.—M.O. £1000.

St. Bartholomew's Hospital and College.—Demonstr. of Pathology.

St. Mary's Hospital for Women and Children, Plaistow, London, E.—Res. M.O. £200. Also Surg. in charge X ray Dept. £50.

Salford Royal Hospital.—Res. S.O. £250. H.P. £200. H.S. and Cas. H.S., £150 each.

Salford Union Infirmary.—Sen. Res. Asst. M.O., Sec. Res. Asst. M.O. £350 and £300.

Scarborough Hospital and Dispensary.—Two H.S.'s £150.

Seamen's Hospital Society, Dreadnought Hospital, Greenwich.—P. 50 gs. Three Anæsth.'s. 50 gs. H.S. £100.

Sheffield Royal Hospital.—Asst. Cas. O. £150.

Sheffield Royal Infirmary.—Radiologist. £100.

Shrewsbury, Royal Salop Infirmary.—H.S. £250.

Singapore Municipality, Straits Settlement, Infectious Diseases Hospital, &c.—Med. Supt. £900. Asst. Health O. £750.

Stoke-on-Trent, North Staffordshire Infirmary.—Two H.S.'s. £200.

Sunderland County Borough.—Asst. M.O.H. and Maternity and Child Welfare M.O. £600.

Turks and Caicos Islands.—M.O. £400.

University of London.—External Examiners.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—P.'s.

Warwick County Lunatic Asylum.—Sec. Asst. M.O. £300.

West London Hospital, Hammersmith, W.—H.S., Asst. Anæsth.

Wigan County Borough Education Committee.—Part-time Dentist. £150.

Winchester, Royal Hampshire County Hospital.—H.S. £250.

Worcester County and City Lunatic Asylum, Powick, Worcestershire.—Med. Supt. £800.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Caldbeck, Hull, and Shaftesbury.

Births, Marriages, and Deaths.

BIRTHS.

ABEL.—On Feb. 18th, at 21, Jenner House, Hunter-street, W.C. 1, the wife of A. Lawrence Abel, M.B., B.S. Lond., of a son.

DENNING.—On Feb. 24th, at St. Catherine's, East Grinstead, the wife of Dr. Fredk. A. V. Denning, of a daughter.

DODD.—On Feb. 25th, at 17, Ventnor Villas, Hove, to Dr. and Mrs. H. Grantham Dodd—a daughter.

DUGGAN.—On Feb. 20th, at College Gates, Worcester, the wife of Norman Duggan, M.B., F.R.C.S., of a son.

GRAHAM BROWN.—On Feb. 26th, at Sheerwater Lodge, West Byfleet, Surrey, the wife of L. Graham Brown, M.C., M.A., M.B. Oxon., of a daughter.

ROPER SAUNDERS.—On Feb. 5th, at 19, Devonshire-place, Jesmond, Newcastle-upon-Tyne, to Dr. and Mrs. Roper Saunders—a daughter.

SHATTOCK.—On Feb. 27th, at 38, Mecklenburgh-square, W.C., to C. E. Shattock, M.S., F.R.C.S., and Mrs. Shattock (F. Mackenzie, M.B., B.S.)—a daughter.

MARRIAGES.

DIXON—HOLMES.—On Feb. 28th, at St. Clement's Church, Bournemouth, William John Dixon, M.B., M.R.C.S., L.R.C.P., of Trong, Taiping, to Grace Gertrude, younger daughter of the late William Holmes, of Morton Hall, Gainsborough, and Mrs. Holmes, Bournemouth.

DEATHS.

BONNEY.—On Feb. 29th, at Elm Park-gardens, S.W., of pneumonia, William Augustus Bonney, M.D., F.R.C.S., aged 79 years.

BURGESS.—On Sunday, the 29th Feb., at the Red House, Lincoln, Dr. Andrew Burgess, of Canwick-road, Lincoln. Funeral at Canwick Church on Wednesday, 2.30.

MATURIN.—On Feb. 24th, at Hartley Wintney, of apoplexy, Henry Maturin, M.R.C.S., L.R.C.P., aged 77.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

BELL, G., AND SONS, London.
My Chess Career. By J. R. Capablanca. Pp. 212. 7s. 6d.

CORNISH BROS., Birmingham.
Practical Hints on Minor Operations. By G. P. Mills, F.R.C.S. Pp. 111. 5s.

FORBES AND CO., Chicago.
The Woman of Forty. By Edith B. Lowry, M.D. Pp. 203. $1.25.

GREEN, W., AND SON, Edinburgh.
The Topographical Anatomy of the Limbs of the Horse. By O. Charnock Bradley, M.D., M.R.C.V.S. Pp. 172. 21s.

HEINEMANN, WILLIAM, London.
Home Exercises for Spinal Curvature. By R. Timberg, M.R.C.S. Eng., L.R.C.P. Lond. 2nd. ed. Pp. 68. 6s.

HODGE, WILLIAM, AND CO., London.
The Trial of Hawley Harvey Crippen. Edited with Notes and an Introduction by Filson Young. Pp. 211. 10s. 6d.

LONGMANS, GREEN, AND CO., London.
Food Supplies in Peace and War. By Sir R. H. Rew, K.C.B. Pp. 183. 6s. 6d.

METHUEN AND CO., London.
Evening Play Centres for Children. By Janet P. Trevelyan. Pp. 182. 5s.

NEW YORK UNIVERSITY PRESS, New York.
The Ground and Goal of Human Life. By Professor C. G. Shaw, Ph.D. Pp. 593.

PONSONBY AND GIBBS, Dublin.
Henry Quin, M.D. (1718–1791). By T. P. C. Kirkpatrick, M.D. Pp. 66. 10s. 6d.

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A.—Mr. R. J. Albery, Lond.; Messrs. Allen and Hanburys, Lond.; Prof. J. G. Adami, Liverpool; Automobile Association and Motor Union, Lond.; Alsace-Lorraine Development Trading Co., Lond.; American Machines Foundry Co., Lond.

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E.—Mr. W. G. Evans, Beckington; Dr. J. R. Earp, Lond.

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I.—Insurance Committee for the County of London.

J.—Dr. A. C. Jordan, Lond.; Mr. G. E. M. Johnson, Lond.

K.—Lieut.-Col. J. Kynaston, R.A.M.C. (retd.), Lond.

L.—Dr. R. A. Lyster, Winchester; Dr. H. L. Lyon-Smith, Lond.; Mr. N. C. Lake, Lond.

M.—Midwives Institute, Lond.; Middle Classes, Union, Lond.; Medical Research Committee, Lond.; The Mackenzie Davidson Memorial Fund, Lond.; Dr. R. W. MacKenna, Liverpool; Dr. I. Macdonald, Huelva, Spain; Messrs. Masson et Cie., Paris; Ministry of Health, Lond.; Mr. G. Mayall, Bolton; Dr. P. Manson-Bahr, Lond.; Dr. R. S. Miller, Khanka; Prof. C. S. Myers, Lond.; Middlesex Hospital Medical School, Lond.; Dr. W. Makeig-Jones, Torquay; Ministry of Pensions, Lond.

N.—National Rifle Association, Brookwood; National Safety Council, Chicago; National Council for Combating Venereal Diseases, Lond., Hon. Sec. of.

O.—Oxford University Press, Lond.; Oxford Ophthalmological Congress, Hon. Sec. of.

P.—Miss R. Paget, Lond.; Dr. G. N. Pitt, Lond.; Lady Petre, Ingatestone; Dr. R. H. Paramore, Rugby.

R.—Royal Albert Institution, Lancaster; Royal Institution of Great Britain, Lond.; Royal Society, Lond.; Dr. J. W. Rob, Weybridge; Royal Institute of Public Health, Lond.; Royal Society of Arts, Lond.

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T.—Dr. E. M. Tillson, Milwaukee; Tuberculosis Society, Lond.

W.—Dr. K. M. Walker, Lond.; Dr. S. A. K. Wilson, Lond.; Dr. J. Watt, Sutton; Dr. H. M. Woodcock, Lond.; Dr. W. McC. Wanklyn, Lond.; Dr. F. J. Waldo, Lond.; West London Hospital Post-Graduate College, Dean of; Mr. C. E. West, Lond.; Warrington, Medical Officer of Health of; World Trade Club, San Francisco; Dr. C. H. Whiteford, Plymouth; War Office, Lond., Director of Pathology.

Communications relating to editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, W.C. 2.

Notes, Short Comments, and Answers to Correspondents.

COLONIAL HEALTH REPORTS.

Malta.

THE report on the Blue-book for 1918–19 gives the civil population on April 1st last as 224,655. The birth-rate for the year was 30·09 per mille and the death-rate 26 30 per mille. The death-rate among children under 12 months was 244·60 per 1000 births, and that of children under 5 years was 107·06 per 1000 of the population of that age.

Influenza, marked by intercurrent or subsequent pneumonic infection, was the outstanding feature of communicable diseases in the islands. The number of deaths certified as due to influenza as a primary cause of one or other of the fatal complications was 685, equal to a mortality rate of 3·04 per 1000 of the population. Inclusion of all deaths from broncho-pneumonia and pneumonia would bring this rate up to 4·11. As was expected, an increase in the number of deaths from pulmonary tuberculosis has been observed, and is accounted for by the injurious spurt set on by inter-current influenzal infection. Otherwise the state of health of the islands has been satisfactory. 4439 persons were successfully vaccinated. The mean temperature for the summer months of June, July, August, and September was 74·8, and for the winter months of January, February, and March 55·9. The total mean rainfall was 20·44, or 2·73 inches more than in 1917–18. The number of patients admitted into the hospitals of Malta and Gozo was 3974, and 145834 persons were attended by the district medical officers at the Government dispensaries or at their own residences. The number of inmates in the Leper Hospital on March 31st, 1919, was 93.

Trinidad and Tobago.

In his report for the year 1918, the acting Colonial Secretary, Mr. H. B. Walcott, says the estimated population of the two islands on Dec. 31st was 381,309. The white population is chiefly composed of English, French, Spanish, and Portuguese. The large majority of the inhabitants are natives of the West Indies of African descent, the balance being made up of East Indians, estimated at 129,300, and a small number of Chinese.

The birth-rate was 31·01 per 1000 and the death-rate 21·70 per 1000. The number of deaths of children under one year was 1628, and the infantile mortality was 138·4 per 1000 births. The death-rates from the principal diseases were: diarrhœa and enteritis, 2·02 per 1000: malaria, 2·20; tuberculosis, 1·44; dysentery, 0·78; enteric fever, 0·65; ankylostomiasis, 0·56. Measures for reducing the high infantile mortality in the colony were adopted during the year. The Government established a mothers' and infants' clinic at the Colonial Hospital, Port of Spain, where infants and expectant mothers were seen by a Government Medical Officer three times a week. The Notification of Births Ordinance now in force in Port of Spain provides for the notification of all births within 36 hours. A baby welfare league was started in 1918. There was no serious epidemic during the year. Influenza of a mild type was widespread, but was not attended by the high mortality observed in other countries. Hookworm disease, which seriously affects the labouring population, was treated on the intensive plan by the Rockefeller International Health Commission in a few districts, and the Central Board of Health instituted a campaign in all country districts with the object of effecting the provision of sanitary conveniences in connexion with all dwellings. The question of the housing of lepers was inquired into by a committee, whose recommendations were of great value, and a committee of medical men, under the chairmanship of the acting Surgeon-General, had under consideration the prevalence of venereal diseases and their control. Hospital accommodation in the islands includes 340 beds at the Colonial Hospital, Port of Spain, 123 at the San Fernando Hospital, and 246 at the Government District Hospitals in Tobago, Arima, St. Joseph, Tacarigua, Couva, Prince's Town, and Cedros. There are also small temporary hospitals at Chaguanas, Sangre Grande, Mayaro, and Toco. Hospitals for yaws patients are provided at St. Augustine (200 beds) and Tobago (160 beds).

Nigeria.

A delayed report on the Blue-book for 1917, prepared by Sir F. D. Lugard, G.C.M.G., C.B., D.S.O., Governor-General, states that in the Northern Provinces it was estimated that there were resident about 779 Europeans, of whom about 343 were officials. In the colony and Southern Provinces there were about 2000 Europeans, about 1250 being officials.

The native population of the Northern Provinces is estimated at 8,080,793, and of the Southern Provinces and colony at 7,856,000—a total of about 16 millions. The average density in the Northern Provinces would, therefore, be about 32 to the square mile, and in the Southern Provinces and colony about 98. Registration is compulsory in Lagos and Ebute Metta only, and the statistics from these places for 1917 showed: total births, 2846; total deaths, 2167; total deaths of infants under 1 year, 795; stillbirths, 141; infantile mortality per 1000 births, 279·3. In the Northern Provinces the cases treated of the five diseases, dysentery, malaria, blackwater fever, yellow fever, and trypanosomiasis, showed an increase, and malaria was responsible for, roughly, one-fourth of the total cases treated. In the Southern Provinces the general health compared rather unfavourably with that of the previous year. 132,878 cases were treated, of which 903 died, or a case mortality of 6·8 per 1000, as compared with 122,217 cases and 737 deaths in 1916, or a case mortality of 6·03 per 1000. There were 10,631 more cases reported than in 1916. This

fact, however, can hardly be taken as an indication of an increase in the sick rate among natives, but rather as an indication, which has been noted annually in the past, of a greater inclination on the part of the native to avail himself of European methods of treatment.

With the exception of anæmia, general diseases are not frequently seen; there were 2 cases of diabetes, 7 of gout, 12 of exophthalmic goitre, 2 of leucocythæmia, and 3 of lymphadenoma. Eleven deaths were due to anæmia and 1 to leucocythæmia. Malaria, as usual, headed the list with 11,804 cases. There was 22 cases of blackwater fever in Europeans, with 11 deaths, and 5 cases occurred in natives, with 2 deaths. There were 6 cases (none fatal) of trypanosomiasis, 2 of which were in Europeans. Four cases of yellow fever occurred, of which 2 were in Europeans; 1 native and 1 European died of the disease. There were 2695 cases of chicken-pox reported and 231 of small-pox; also 12 cases of enteric, of which 3 natives died. Forty European officials and 34 European non-officials were invalided during the year, and there were 15 deaths among European officials and 8 among non-officials. Twenty-seven lepers were treated at the asylums at Yaba and Calabar.

Swaziland.

Mr. B. Nicholson, Government Secretary, in his report for 1918–19, states that the estimated population is now about 100,000, including 1700 Europeans. Amongst the latter there were during the year 9 marriages, 34 births, and 22 deaths. The births and deaths of natives are not registered.

Malarial fever was severe during the hot months and was accompanied in comparatively few cases by dysentery. There were a few cases of enteric. Cases of leprosy amongst the natives are discovered from time to time. The Swazis do not consider this disease to be infectious and steps are being taken more effectually to isolate known cases. The great epidemic of influenza which ravaged South Africa in the latter months of 1918 affected every part of Swaziland, but fortunately it appeared in a mild form. Extra doctors, nurses and orderlies were obtained through the Health Department of the Union Government, and everything possible was done through them, and, by the issue of free medicines, to alleviate the condition of those attacked. The natives, who had not hitherto taken a large advantage of the medical services of the territory, submitted freely to inoculation and to the administration of the medicines prescribed. During the epidemic the death-rate amongst the Europeans was ½ per cent., and amongst the natives approximately 1 per cent. The hospital at Mbabane is the only Government institution in the territory; it contains one European and two native wards. There were 133 admissions during the year and nearly 2500 out-patients were treated.

Basutoland.

Mr. J. P. Murray, Government Secretary, has issued his report for 1918 19.

He states that typhus fever, which had been prevalent in the Quthing and Qacnas Nek districts from August to December, 1917, had been entirely stamped out by May 11th, 1918. During the period there were 241 people affected, with 111 deaths. No further cases occurred during the year. The so-called Spanish influenza epidemic was rife in the months of October and November. In the absence of any registration of births and deaths no accurate statistics in regard to mortality from the disease are available. Apart from the direct observation of the medical staff, information obtained by the district officials from the native chiefs and from local statistics supplied by missionaries and traders, goes to show that the deaths in the territory may be safely estimated at 15,000. Probably 75 per cent. of the total population was affected. There has again been a notable decrease in the incidence of enteric fever. Dispensary and hospital work has been maintained at a high standard in spite of absence of some of the staff on war leave. The number of in-patients treated was 1984; out-patients (new cases) 23,078. On March 31st, 1919, there were 168 male and 181 female inmates in the Leper Asylum. During the year there had been 72 deaths, 9 births, 64 deserters, and 44 returned deserters. The high death-rate was due to the influenza epidemic, which also caused the greater number of desertions.

Bechuanaland Protectorate.

The health conditions for the year ended March 31st, 1919, as regards the incidence of general diseases, and relatively to predisposing and prevailing climatic influences, were above the average for the past few years.

Malarial disease, so far as it could be identified separately, was neither so prevalent nor so severe for the first half of the year. After that, however, the existence of the disease in the usual form was obscured by the epidemic of Spanish influenza, with which it revived and developed concurrently over the greater portion of the country. The mortality all round from influenza and its complications was estimated at between 4 and 5 per cent. of the population. Amaas, or modified small-pox, which was widespread amongst the various tribes two years ago, has, in consequence of the protection afforded by vaccination during that interval, all but disappeared; only one case was observed within the territory during the year.

PRACTICE IN JERUSALEM.

To the Editor of THE LANCET.

SIR,—With reference to your reply to "H. P. U. (U.S.A.)" in THE LANCET of to-day's date, as late D.A.D.M.S. in the Occupied Enemy Territory Administration of Palestine, I can inform you that a licence to practise is now granted to medical men and women who can produce diplomas of recognised universities and medical schools. This regulation was established about a year ago. A small fee is charged.

I am, Sir, yours faithfully,

Plymouth, Feb. 28th, 1920. F. J. SCRIMGEOUR.

THE AIR IN PUBLIC VEHICLES.

IT is stated that the London General Omnibus Company has arranged to spray motor omnibuses daily with disinfectant, and that the London County Council is considering the question of disinfecting tramway cars. It would certainly be a satisfaction to the first traveller in an omnibus or tramcar to know that it was free from disease germs and the knowledge might afford him compensation for early rising. But by 7 A.M. all public vehicles are full of micro-organisms, some harmless and others pregnant with mischief for the susceptible traveller. Free ventilation and prevention of overcrowding are the only reliable safeguards, and so long as overcrowding seems to be unavoidable, ventilation needs to be in proportion. In so far as an antiseptic spray soothes the hygienic conscience to neglect the greater essentials, it may do positive harm.

THE G. P. POCKET THROAT AND EAR OUTFIT.

Dr. Henry Dutch has adapted the common electric torch to the purposes of laryngology and otology by a device, which consists of a metal collar fixed close to the lens of a small cylindrical torch. To the periphery of this collar is attached a small piece of tubing through which runs at right angles to the plane of the collar a rod carrying at the forward end a laryngeal mirror, an ear speculum or a tongue depressor, as the case requires, the rod being adjusted by a thumb-screw. Good illumination of the throat, fauces, vocal cords, and the drum of the ear can be obtained, while the laryngeal mirror can also be used with advantage for examining the teeth. The device can be obtained from all surgical instrument-makers.

THE VOCAL THERAPY SOCIETY.

UNDER the auspices of this society a King's Services Choir, consisting of some 150 discharged and more or less disabled soldiers, demonstrated at the South-Western Polytechnic on Feb. 28th the benefit resulting from deep breathing and singing. The programme included "The Trumpeter," "Up from Somerset," "Whisper and I Shall Hear," "Gallants of England," and the "Orderly," and the zest with which they were rendered bore ample testimony to the enjoyment of the singers. The practical sympathy and lack of conventionality on the part of Lady Carnarvon, the vice-president, and of the other officials of the society, obviously helps in no small measure to promote the success of the enterprise. We have already referred to the Vocal Therapy Society (THE LANCET, Feb. 7th, p. 358), the aims of which include the promotion through speech, song, and efficient breathing of the mental health of the soldiers in the hospitals and convalescent camps, and in discharge centres. In furtherance of these aims King's Services Choirs are being formed in various places and the movement is deserving of the heartiest public support. More than 166 000 men have been discharged from hospitals medically unfit since the Armistice was signed, and both men and public will benefit if some of these can be made useful members of society by these means. Subscriptions should be sent to the honorary treasurer, Mr. H. E. Bury, 47, Lincoln's Inn Fields, London, W.C. 2.

THE INTERPRETATION OF MEDICAL CERTIFICATES.

Sir John Hope recently asked the Pensions Minister to state in the House of Commons why the Midlothian Local Pensions Committee, on June 18th, 1919, were ordered to stop paying £1 9*s.* 7*d.* per week to Mrs. Maclaren, Dalkeith, and in future only to pay 5*s.* 6*d.* per week; whether he was aware that Mrs. Maclaren had three young children to support, and was the widow of Private T. Maclaren, No. 303407, 1/8th Argyll and Sutherland Highlanders, whose death on Jan. 4th, 1919, was certified by the local medical officer to be the result of a wound received in action. In reply, Sir L. Worthington-Evans stated that Private Maclaren was discharged in August, 1917, for gunshot wound in the right leg and received a pension of 11*s.* weekly. He died in January, 1919, from gastric ulcers, pericarditis, and heart failure, disabilities which, in the opinion of my medical advisers, were not connected with his wound or with his military service. In these circumstances the advances provisionally made by the local committee could not be continued, and the widow was awarded a pension of 5*s.* 6*d.* per week under Article 17 of the Royal Warrant. In view, however, of further evidence which has been submitted, the case is now being reinvestigated, and the decision will not be delayed. If the decision is unfavourable to the widow, she will be able to appeal to the Appeal Tribunal.

Sir John Hope rejoined that he had in his possession a medical certificate in which heart failure was not mentioned, when Sir L. Worthington-Evans pointed out that the widow, if a final pension is refused, has the right to appeal to an independent tribunal; laymen must have extreme difficulty in dealing with medical certificates.